THE INDIAN TARIFF POLICY

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WITH SPECIAL REFERENCE TO SUGAR PROTECTION

BY

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PREFACE

IN presenting this book to the public, I feel, a word of apology is necessary. Although the Indian Tariff Policy is a subject of great practical interest and my appeal is principally to those practical men of affairs who are to guide the economic destiny of this nation, I am afraid, in my attempt to work out the outlines of the policy from its very fundamentals, I have been led, at times, to follow a process of reasoning which the general reader in this country may, perhaps, find it difficult to assimilate. Of all sciences economics is probably the only one in which concessions have to be made every now and then to the ignorance of the general reader. Writers on economics, therefore, suffer from a peculiar disadvantage, in that their writings can always be criticised as being either too abstruse or too commonplace. I believe, however, that the whole subject of international trade, of which tariff policy forms a part, is itself such that if the reader is really to comprehend the bewildering complexity of its phenomena with anything like scientific precision, a certain amount of patience and forbearance and an acquaintance with the essentials of recent monetary theory are vitally necessary.

I am keenly aware of the shortcomings of this work and would invite criticism from all quarters. To those of my Indian readers, however, who will essay an attack on this book just because it supports a view which is extremely unpopular in India at present, I desire to address a humble plea. It is time for us to realise that not the whole of economics is politics, nor is the whole of politics economics. The argument stated here is based on certain theories which are evolved by people who possess a greater authority on this subject than the politicians of this country, and any intelligent criticism of the argument has to proceed by showing either that the theories are in themselves unsound or that they have been misused or misinterpreted here. The people who claim to be the directive forces behind the Assembly debates and who play upon our political susceptibilities through the medium of the daily paper are exactly the people who are to be trusted least. Because, the science of economics has made a considerable advance in other countries since the time our leaders left their books and now their vanity prevents them from propitiating the economic Muse with the real devotion of a student. The sooner we shake ourselves free from the influence of such leaders and develop the capacity for original thought, the better for the future of this country.

This book does not pretend to be a treatise on the sugar industry. I have merely used the case of that industry to illustrate my argument, because it happens to be of some topical interest at present. The question of continuing the protective duty on sugar is going to be considered by Government in March, 1938, and an inquiry into the position of the industry is expected to be held shortly. I have given a few selected figures bearing on the question in the Statistical Appendix.

September 28, 1936. B. N. ADARKAR

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"A SMALL and temporary improvement may really be the worst enemy of a great and permanent improvement, unless the first is made on the lines and in the direction of the second. And so it may if it be successfully palmed off upon a society as actually being the second. In such a case as this, the small reform, if it be not made with reference to some large and progressive principle and with a view to further extension of its scope, may make it all the more difficult to return to the right line and direction when improvement is again demanded."

LORD MORLEY.

CHAPTER I

PROTECTION AS A CURE FOR UNEMPLOYMENT

IF there is one pursuit which dominates the economic enquiry in our times it is the search for a specific cure for the paradoxical disease of poverty amidst plenty. It appears to have been agreed on all hands that the universal spectacle of falling prices, growing unemployment and the continuous downward pressure on money-incomes is to be attributed not to any deficiency of productive power or any scarcity of money capital, but to a mysterious famine of purchasing power. Contemporary economic literature abounds in proposals for relieving this distress, but while most of these proposals are new-fangled and involve a re-orientation of the classical theory, having for that reason only a limited appeal outside the academic circles, there is one among them, viz., the proposal for a protective tariff, which has the unique virtue of making a liberal concession to the vested interests and being, at the same time, in harmony with the prevailing passion of ruling authorities all over the world. It is this that invests a protective tariff with dangerous potentialities and it is for this reason that any hasty

and ill-conceived theorising in favour of protection ought to be cautiously treated and promptly checked. I do not intend within the limited time at my disposal to write a treatise of all the class-room arguments for and against protection ; my intention is only to present a systematic and critical analysis of some of the latest arguments advanced on the subject by some eminent thinkers with a view to ascertain the efficacy of tariffs as a means of mitigating the effects of the trade depression.

Current controversy in India has centred round the problem of assessing the burden of protection to the consumer. Following the method of the Australian Tariff Board,[1] attempts have been made to estimate the burden by comparing the prices paid for home-made protected goods with those which would have to be paid for similar goods if imported free. A less scientific method is to compare the present prices of the protected goods with the prices which the country used to pay before protection was granted. It seems to be often forgotten that the theoretical validity of the estimates prepared by these methods depends on the fundamental assumption that protection has a bearing only on the prices and production of the protected commodities and that it is quite neutral in its effect so

1 See Skene Smith: *Structure and Working of Australian Tariff*, p. 11.

far as the total production, income and employment are concerned. But it may be argued that the assumption is entirely wrong. It can be urged on the authority of some well-known economists that a policy of protection, if vigorously pursued, sets up certain monetary reactions within the economic system by virtue of which it gives a stimulus, not merely to the industries directly protected, but to several other industries as well. The argument runs as follows. When a country is caught in the grip of a severe depression and prices are falling, the capitalists will not undertake new investment till prices begin to rise. Protection, by raising the prices of certain commodities, affords a direct inducement to certain classes of producers, so that in the first instance, there is an increase in investment in one particular group of industries. If this increase in investment represents a net increase in the total investment of the country, it will mean an increase in the volume of purchasing power which is put into circulation and prices will tend to rise. The expenditure of their wages by the new wage-earners will raise the prices of several other commodities besides those which are directly protected, and this will stimulate investment in the industries producing them and employment will increase further. Thus, the total employment and income will increase by several

times the increase in employment and income in the protected industries. (The relation between the primary and the secondary increase in employment has been termed the "multiplier" by Mr. Keynes.) The reader will immediately see that this kind of reasoning sets the problem in an entirely new perspective. It was so far admitted even by protectionists that protection is bound to be a burden on the community in the short period, though it may help to increase employment and income in the long run. But now, according to the analysis set out here, it is being argued that protection may not be a burden even in the short period. If it is proved that as a direct consequence of our policy of protection there has been an increase in income and employment, we will have to make an allowance for such increase from the aggregate extra cost that the country is paying on the protected production, before arriving at the final estimate of the true burden of protection.

Let us take the case of sugar protection as an example. It may be that as a result of protection, the consumer in India has to pay for sugar something like Rs. 7 more per hundredweight than he would have to pay if there was no protection. But we cannot at once jump to the conclusion that the burden on the consumer amounts to Rs. 7 ; because, it is quite arguable that due to certain monetary reactions set up

by sugar protection, the total income of the community may have increased and the consumer's income may have risen by more than Rs. 7.

I will, therefore, address myself first to this question: Can there be an increase in employment and income as a result of protection ? A satisfactory answer to this question will also enable us to decide how far the loss of customs revenue due to protection will be made up by an increased yield of existing taxes, direct and indirect, due to a diffusion of prosperity[1]. It is this aspect of the problem that has been the source of great confusion and on which there has lately been an acute divergence of opinion even among Western economists. In India, there is perhaps no argument which makes a stronger appeal to popular imagination than that our policy of protection has helped us to ease the employment situation in the country[2].

"If there is one thing that Protection cannot do" wrote Mr. J. M. Keynes in 1923, "it is to cure unemployment. There are some argu-

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1 *Commerce,* April 18, 1936, ("In Defence of Sugar Protection"). "Taken as a whole and viewed over a fairly long period, protection does not lead to a loss of revenue."

2 Mr. Walchand Hirachand in his Foreword to Mr. M. P. Gandhi's *Indian Sugar Industry*; Sir T. Vijayaraghavacharya's speech at Annamalai University on 18 July 1936; *Commerce,* April 18, 1936, p. 619 and May 2, 1936, p. 695; M. P. Gandhi: *The Indian Sugar Industry,* 1936 Annual, p. 97.

ments for Protection based upon its securing possible but improbable advantages, to which there is no simple answer. But the claim to cure unemployment involves the Protectionist fallacy in its grossest and crudest form."[1] The progress of economic reasoning and the subsequent course of events have led Mr. Keynes to doubt the theoretical validity of his judgment. He has presented a revised version of his theory of protection in his *General Theory of Employment, Interest and Money* and since this is the latest exposition of this subject by such an eminent authority, I might well begin my analysis by an extensive quotation from this book.

"In conditions in which the quantity of aggregate investment is determined by the profit motive alone, the opportunities for home investment will be governed, in the long run, by the domestic rate of interest, while the volume of foreign investment is necessarily determined by the size of the favourable balance of trade. Thus, in a society where there is no question of direct investment under the ægis of public authority, the economic objects with which it is reasonable for the Government to be preoccupied, are the domestic rate of interest and the balance of foreign trade.

"Now, if the wage-unit is somewhat stable

[1] *The Nation and the Athenaeum,* November 24, 1923.

and not liable to spontaneous changes of significant magnitude (a condition which is almost always satisfied), if the state of liquidity preference is somewhat stable, taken as an average of short period fluctuations, and if banking conventions are also stable, the rate of interest will tend to be governed by the quantity of the precious metals, available to satisfy the community's desire for liquidity. At the same time, in an age in which substantial foreign loans and the outright ownership of wealth located abroad are scarcely practicable, increases and decreases in the quantity of the precious metals will largely depend on whether the balance of trade is favourable or unfavourable.

"Thus, as it happens, a pre-occupation on the part of the authorities with a favourable balance of trade served both purposes, and was, furthermore, the only available means of promoting them. At a time when the authorities had no direct control over the domestic rate of interest, or the other inducements to home investment, measures to increase the favourable balance of trade were the only *direct* means at their disposal for increasing foreign investment; and, at the same time, the effect of a favourable balance of trade on the influx of the precious metals was their only *indirect* means of reducing the domestic rate of interest and so increasing the induce-

ment to home investment."[1]

Thus, according to Mr. Keynes, the Mercantilists of old welcomed a favourable balance of trade primarily as an instrument for increasing the volume of investment. It is, indeed, fairly obvious that if a favourable balance can be maintained, that is to say, if an artificial curtailment of imports does not lead to a corresponding reduction in exports, the increase in the domestic production which will result from the curtailment of imports will mean a net addition to investment and hence to employment. We cannot, however, decide the question on such *prima facie* considerations. As we probe deeper and deeper into the intricacies of the theory developed by Mr. Keynes, several vital reservations and limitations which are inherent in the theory get gradually instilled in our mind; and since, in my opinion, it is precisely these reservations that reveal the theory in its proper light, I will briefly state them here at once before proceeding to further discussion.

(1) The success of the policy depends, fundamentally, on our ability to maintain a favourable balance.

(2) The theory admits that the policy may defeat itself, if it leads to a rise in the domestic level of costs and|or an increase in the volume of

[1] *The General Theory of Employment, Interest and Money*, pp. 335-6.

foreign lending which is disproportionate to the favourable balance, as a result of an undue fall in the rate of interest.

(3) So far as the home investment is concerned, the policy is considered to have a special application for a country in which, among other things,

(*a*) There is no direct means or sufficiently effective means of stimulating home investment besides changes in the rate of interest, and

(*b*) The rate of interest is governed by the stock of the precious metals which only a favourable balance can increase.

(4) The theory, therefore, does not apply with the same force to a country which is on an independent standard and in which some direct means of stimulating home investment is available.

(5) It admits that the gain of one country is balanced by an equivalent loss to some other country.

(6) It, therefore, makes the following specific reservations:

" It does not follow from this that the maximum degree of restriction of imports will promote the maximum favourable balance of trade."

" For this and other reasons the reader must not reach a premature conclusion as to the *prac-*

tical policy to which our argument leads up."

"The weight of my criticism is directed against the inadequacy of the *theoretical* foundations of the laissez-faire doctrine upon which I was brought up."

The intelligent reader will immediately perceive that the theory is more restricted in its application than one would imagine at first sight and that it has no sympathy with those die-hard protectionists who preach protection in season and out of season. Quite a number of vital propositions have been tacitly assumed in this theory and before rushing to any particular conclusion one has to judge for himself how many of them actually hold in any given situation.

II

Even if we take it for granted that an increase in the foreign balance will, like an increase in loan-expenditure in a period of acute unemployment among the factors of production, generate a cumulative force of trade activity and create employment several times the size of the original increase, can we accept without question that such an artificially created favourable balance will necessarily be maintained? To this the traditional answer of the Free Trader has always been that "imports pay for exports"; any unnatural restriction of imports must, therefore, lead to a corresponding contrac-

tion in exports.[1] The question, however, is not quite so simple that it can be decided by mere catch-words. If we are to obtain a truly scientific grasp of the matter, we must be able to visualise the precise *causa sequence* and the functional relation between a restriction of imports and a restriction of exports ; to get to know, so to say, the hidden axle that holds the two wheels of international trade. As I will try to show just now, it is exactly this aspect of the problem that is still covered up in mist and on which even the writings of some of the most distinguished writers on international trade are not always clear, complete and unequivocal.

It has been argued that when a country restricts its consumption of foreign goods, the equilibrium in its balance of payments can easily be restored by an increase in foreign lending (or, in other words, by an import of securities). A reduction in exports or a prolonged import of gold does not necessarily enter into the picture. One obvious difficulty of this reasoning is that it does not consider the case of a debtor country

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1 Cf. "If there are less imports, there will be less exports ; and labour, if employed more in the new way, is employed less in the old." Taussig: *Principles of Economics*, Vol. I, p. 510.

"The probable effect of selective protection is to divert, not to add to, the country's economic activities. The expansion of the protected industries is balanced by the contraction in the predominantly export industries."—Prof. Henry Clay: *The Post-War Unemployment Problem*, p. 115.

Cf. Phillip G. Wright: *Sugar in Relation to the Tariff*, p. 215.

like India, Australia or South Africa, which cannot afford to lend to its customers, but must realise its claims on them in order to meet its obligations to England. There can be no direct lending from such a country. The countries, which are its customers, and whose exports are affected by its policy must, therefore, borrow from some other source in order to keep up their consumption of its goods. Unless the restriction of imports by this country coincides with a spontaneous increase in lending by some other country, there can be no alternative to a fall in exports.[1] The conclusion is that a debtor country embarking on a protectionist policy cannot be sure that this divine aid of international lending will actually be available to it, unless international lending is the universal order of the day. When on the contrary all channels of international lending are shrivelled up, such a presumption does not exist, so that the only natural consequence which a country can logically expect to ensue from a curtailment of imports is a more or less proportionate curtailment of exports. What is, further, the proba-

1 Alternately, the creditor country to which it makes payments on capital account must utilise them for increasing its imports from those countries. This will happen only *if* an accumulation of funds in the creditor country leads to an increase in investment and hence an increase in consumption in that country. This, however, is improbable in a period of depression. (See *infra* pp. 36-9).

bility that countries whose exports are affected by our policy will actually borrow ? It may be that such favourable balance as they had at the time we imposed our duties was already insufficient to meet the service of their external obligations. Any further reduction in that balance will only enhance the difficulty of their problem. At a time when the service of their existing debt has already become a source of grave anxiety, the most natural solution which may appeal to them is not an addition to their debt, but a curtailment of imports by imposing counter-tariffs.

The argument that an increase in external debt necessarily fills up the gap caused by a failure of exports ignores what is perhaps the most vital consideration in this matter, viz., that changes in the international movements of capital, both short term and long term, are to a very large extent spontaneous and independent of merchandise transactions, and whenever such movements are induced (by changing the level of interest rates at home relatively to the level abroad), they rarely fail to affect the course of merchandise transactions. That is to say, if a country raises the bank rate sufficiently high to attract foreign capital, it must, *ceteres paribus,* create a divergence (or widen it if it already exists) between the market rate and the natural rate (i.e., the rate which maintains an equili-

brium between costs and prices), thus tending to curtail enterprise at home and the volume of purchasing power which is put into circulation and thereby reducing imports. Thus, induced changes in the import of capital will not leave the volume of imports unchanged. As regards spontaneous changes, it is obvious why they should be independent of merchandise transactions. As Mr. Keynes has pointed out in another connection, "The amount of foreign balance in any given situation depends on the relative *price-levels* at home and abroad of the goods and services which enter into international trade. The amount of foreign lending, on the other hand, depends on the relative *interest rates* (corrected, of course, for variations of risk, etc., so as to represent the net advantage of lending) at home and abroad. Now there is no direct and automatic connection between these two."[1] An individual importer, while making his payments abroad, will not necessarily borrow just because a sufficient amount of foreign exchange is not available at a reasonable rate ; he will rather settle his account by an export of gold. Where, then, is the guarantee that when a country suffers a shrinkage in its export markets, its consumption of foreign goods will be automatically kept up by a spontaneous import of capital, unless of course the

[1] Keynes: *A Treatise on Money*, Vol. I, p. 163.

country raises its bank rate relatively to the bank rates elsewhere, thereby causing internal deflation with a reduction of imports as a necessary consequence? When England returned to gold in 1925, her favourable balance suffered a serious set-back, but so far from there being a spontaneous decrease in foreign lending in response to this change in the situation, there was simultaneously going on an actual increase in foreign lending.[1]

The situation assumes an entirely different complexion when the countries concerned are no longer on an international standard. The vagaries of capital movements become worse under these circumstances and a country's power to attract foreign capital by offering higher rates of interest is vitiated by the uncertainty in the minds of people about the future value of the country's currency. In the calculation of what Mr. Keynes calls "the net advantage of foreign lending" the degree of risk becomes a major item (see the passage quoted above). The result is that capital flows "in the wrong direction and for wrong reasons." So far from seeking the most profitable opportunities for investment, which is believed to be one of its pre-eminent characteristics, it merely seeks to be in the safest corner of the world where it will remain piled up and unused till "better times" arrive.

[1] *A Treatise on Money*, Vol. II, p. 185.

There have lately been huge movements of short term capital, but they are mostly in the direction of New York which needs them not.

A few examples taken from the recent commercial history should suffice to prove the truth of the matter. In 1935, the United States, Russia and South Africa had substantial surpluses on their current international account, and it is interesting to know how they used their surpluses. Russia used her surplus to extinguish her new external debt ; South Africa used hers, in part at least, to reduce her net overseas liabilities; while in the United States, a surplus of $147 million was more than balanced by an inflow of foreign capital (long term and short term) to the extent of $1,500 million resulting in a heavy import of gold. Thus, there is no guarantee that a favourable balance will necessarily lead to an export of capital ; in some cases it may lead only to a reduction of foreign debt, while in some others it may actually be accompanied by an import of capital. In none of the three countries mentioned above did the current account surplus lead directly to a resumption of international lending.[1] On a comprehensive view it appears that there has been little change in the unwillingness of creditor countries to make new investments abroad. In view of these

[1] "Debts, Gold and International Recovery ;" *Midland Bank Monthly Review,* June-July, 1936.

facts one cannot confidently assume, that whenever a country's exports fall, it will necessarily be able to adjust its balance of payments by borrowing more.

It may, perhaps, be a useful digression to consider here the argument, which is frequently heard in this connection, that protection increases the capacity of a debtor country like India to meet the service of its external debt.[1] It is argued that an excess of exports over imports should be a normal feature of a debtor country's international trade, while the reverse should be the case with a creditor country. All that protection does, then, is to restore the normal proportion between imports and exports so as to enable the country to meet its external liabilities. This argument may have some validity, if our trade relations were confined only to the creditor country. But our policy of protection hits a number of other countries besides the one to which we are actually indebted. With regard to these other countries, the reasoning of the previous paragraphs would

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[1] Mr. E. F. Groombridge, replying to the contention that a restriction of imports would injure the export trade, writes, "The actual position is that a country, especially a debtor country, can only pay for imports to the extent she can export; in fact, her exports must be more than her imports to the extent that the balance will pay for her liabilities as a debtor country." ("India is Paying less for Sugar," *The Times of India*, February 19, 1936).

apply without any modification. The mere fact that we are reducing our debt to England, does not guarantee that the several countries whose exports fall and which, consequently, suffer a deflation in their incomes, as a direct result of our policy, will be able to maintain their imports ; unless, of course, it happens that England simultaneously lends to them. Our exports to these countries must fall. In the case of the creditor country, however, a different situation arises. Since we do not withdraw our surplus claims from such a country, deflation will not proceed in it to the same length to which it proceeds in other countries. This does not mean that there will be no deflation at all. While the reduction in the exports of the creditor country is a positive factor operating to deflate incomes in that country, the repayment of capital by others simply prevents the rate of interest from rising and is incapable of stimulating home investment in that country in a period of depression. There will, therefore, be a net balance of deflation in the creditor country, and our exports to that country also will fall.

Indeed, the emergent need of the hour from the stand-point of the world economy is not a wholesale reduction of international indebtedness but a resumption of international lending. The argument that protection helps the process of reduction of foreign debts is, there-

fore, defective from the point of view of the world's economic interests. When international transfers of wealth take place in normal times, they increase the exports from the paying country and imports into the receiving country ; in other words, they do not reduce the total volume of international trade, but merely change its distribution or direction. But when one country repays its foreign debt only by curtailing its imports, it is a net reduction in the volume of international trade, not being accompanied by an increase in imports or exports anywhere. The case is analogous to that of a community in which prices and employment continue to fall as the debtors repay their liabilities to the creditors by retrenching consumption, while the creditors who come in possession of the money neither spend it nor lend it. What is necessary under such circumstances is exactly the opposite process, namely, the maintenance of investment and consumption by increased lending.

III

Incidentally, it must have also been clear in the course of this discussion that the main reason why a policy which aims at stimulating employment by curtailing imports, must (unless, capital simultaneously begins to move in the desirable direction by some *deux ex machina*) have an unfavourable reaction on its export trade, is that

it exerts a severe deflationery pressure upon the prices and incomes in the countries affected by it. The point needs a little further elucidation, but what I desire to emphasise here is that it does not seem to be always recognised that the harmful reaction on a protectionist country's export trade may quite as easily be the result of a deflation in other countries as that of an internal inflation ; so that even if an internal inflation is checked by some special factors, the possibility of a contraction in the export trade is not completely removed.

Mr. P. Barrett Whale writes on this subject as follows :—

" A much better understanding of the connection between imports and exports is shown by those who argued that, if we curtail our imports, the foreigners will not be able to buy so much from us. As, however, modern foreign trade is not conducted as barter between national units, but by individual transactions in terms of money, this reasoning may be found rather too simple. *The complete and correct argument* is that import duties tend to raise the level of incomes and costs in the protected country in relation to the level of incomes and costs in other countries and hence to make all its products comparatively dearer to the extent required for the restoration of the international equilibrium. In this way, the export industries find their com-

petitive advantage reduced, even if they use absolutely no material directly affected by the duties ".[1]

It seems to me that while the argument is undoubtedly 'correct' it is not quite as 'complete' as it is claimed to be. Because, the possibility of a rise in the internal incomes and costs which is here envisaged is always present in the minds of those who argue for protection (while, so far as other countries are concerned, the immediate effect may well be only an increase in unemployment instead of a fall in costs, so that the reduction in exports is due not to a change in the conditions of supply but to a change in the conditions of demand). It has been admitted by them more than once that it will be impossible for a country to maintain its exports if costs begin to rise. "If the domestic rate of interest falls so low that the volume of investment is sufficiently stimulated to raise employment to a level which breaks through some of the critical points at which the wage unit rises, the increase in the domestic level of costs will begin to react unfavourably on the balance of foreign trade, so that the effort to increase the latter will have overreached and defeated itself."[2] Mr. R. F. Harrod makes a similar

[1] *International Trade,* pp. 130-31.

[2] *General Theory of Employment, Interest and Money,* p. 336.

reservation : "If rewards are raised, the tariff is not likely, except in special circumstances, to increase the volume of employment."[1]

The inadequacy of Mr. Whale's analysis to explain the interaction between exports and imports becomes evident when we consider further that when there is an acute unemployment among the factors of production, there is really no presumption that costs will rise at all in response to an inflationary tendency set up by a protective tariff. Of course, it is true that if, as the classical theory assumed, real wages were always equal to the marginal disutility of labour, a reduction in real wages through a rise in prices would lead directly to a falling off in the labour supply or a rise in the money wages. But this assumption of the classical theory does not hold in conditions of widespread unemployment. Real wages, under these conditions, may be much in excess of the marginal disutility of labour.[2] The rise in the prices of protected goods and the consequent reduction in real wages need not, therefore, be followed by a corresponding change in money wages.[3]

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1 *International Economics*, pp. 194-6.

2 Indeed, as Mr. Keynes observes, for a man who is long unemployed, some measure of labour, instead of involving disutility, may involve a positive utility.

3 See Prof. Pigou : *The Theory of Unemployment*, p. 75, and Mr. Keynes' criticism of it in the *General Theory of Employment, Interest and Money*, Appendix to chapter 19, pp. 271-79 ; also chapter II and p. 128 and p. 284.

However, as we have already noted above, this by itself does not warrant the conclusion that a reduction in imports will leave exports unaffected. Yet some writers have jumped precisely to this conclusion and to them Mr. Whale's argument supplies no answer. Mr. R. F. Harrod, for example, writes as follows :—

"If no rise in money-rewards to factors occurs and their standard of living is consequently allowed to drop, a tariff may have a stimulating effect on employment. Since there is no change in the relation of efficiency rewards to world prices, A and B output[1] for world markets may go on much as before. But the tariff raises the prices of certain A and B goods in the home market. Consequently, A and B output as a whole and the general level of employment and income will rise."[2]

Just because there is no rise in the level of efficiency rewards, is it legitimate to presume that there is no change in the *relation* between efficiency rewards and world prices? The constancy of efficiency rewards only means that the conditions of supply in this country are unaltered, but it is conceivable that as a direct consequence of our policy, there may have been a

1 "A and B goods" is Mr. Harrod's term for goods capable of entering into international trade. (*International Economics*, pp. 59-62).

2 *International Economics*, pp. 196-8.

considerable change in the conditions of demand and supply in other countries. The curtailment of imports in one country must exert a deflationary pressure in other countries and unless capital movements intervene, deflation must proceed in those countries till their imports fall to the same extent to which their exports have fallen. It is true that no one country can determine the world price for a commodity, but it would be natural for it to buy less than before at any given price, when there is a reduction in its incomes. Indeed, if an important country adopts a policy of all round protection, it may turn the terms of trade violently against other countries, thus aggravating the deflation in their incomes. A buys less from B not only because B buys less from A, but also because the prices of articles which A sells to B have fallen, while those of articles which B sells to A have remained unchanged. A has suffered a loss not merely in respect of what it used to sell to B, but also in respect of what it continues to sell outside B. The extent to which A's goods fall in price depends on the importance of B's market for A. When, moreover, the deflation in other countries affects the costs of their industries, there will be a further handicap on the export industries in the protectionist country. Thus, it is wrong to suppose that just because there is no change in the efficiency rewards, there will be no change in

their relation with the world demand and that the output of export industries will continue unchanged in spite of an initial reduction in imports.[1]

IV

So far we have been working on the hypothesis that tariffs will inevitably reduce imports and our discussion has mainly centred on the question how far exports can be maintained, through the operation of some more or less extraneous factors, in spite of a gap between exports and imports. It is, however, possible to adopt an entirely different line of approach and to say that there will be no such gap between exports and imports at all in the long run. Tariffs do involve an initial restriction of im-

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1 Cf. The speech of Sir James Grigg, Finance Member of the Government of India, in the Legislative Assembly on March, 19, 1936 : " If all India's needs of manufactured goods were supplied from her own factories, the additional number of people industrially employed would be negligible, while the number thrown out of employment and the losses caused to producers owing to our inability to export which our refusal to import would cause would be disastrous."

The recent commercial history of the world contains ample justification for this emphatic assertion of the Finance Member.

" Although domestic industry in certain countries has received a temporary fillip through the shutting out of imports, the contraction of international trade and the deterioration of the export market have in general *more than offset the effect.*" (League of Nations: *World Production and Prices, 1925-32*, p. 51).

Mr. Harrod, it would seem, starts at the wrong end. His assertion that exports remain unchanged, tacitly assumes that imports are maintained (because, unless that happens, exports cannot be maintained, even if their costs are unchanged). If so, is it not a sort of circular reasoning to turn and say that imports will be maintained because exports remain unchanged?

Supposing we trace the causal sequence from the fall in imports, do we find that the additional home investment which is brought into being will be so big as to restore imports to the former level? I think, the answer to this question depends essentially on our estimate of the relation between the "multiplier"[1] and the proportion of income spent on imports, although Mr. Harrod has nowhere made this clear. Let us take a numerical example. Suppose as a result of protection our imports of the protected commodity fall by Rs. 15. The primary increase in the home investment will, therefore, be Rs. 15. What the secondary increase (due to the expenditure of incomes by persons newly employed in the production of the protected commodity) will be, depends on the circumstances of each country. If the multiplier is 4, the total increase in income may be Rs. 60. If,

[1] Keynes: *General Theory of Employment*, Chapter X, especially Section 3; "Means to Prosperity," Chapter II.

Kahn: "The Relation of Home Investment to Unemployment," *Economic Journal*, June 1931.

according to the national habits of consumption, 10 per cent of income is spent on imports, the actual increase in imports resulting from the increase in investment will not be more than Rs. 6. According to our assumptions, this is the limit of expansion in the home investment and an increase in imports. Imports, therefore, must fall by Rs. 9 and exports correspondingly.

But the increase of Rs. 6 is not a net increase. The reduction of Rs. 9 in exports must also have an adverse reaction on imports ; because the factors of production employed in producing these exports were also spending a part of their income on imports. Just as an increase in investment by Rs. 15 leads to a total increase in the national income by Rs. 60, so a decrease in investment in export industries by Rs. 9 will lead to a total decrease in the national income by Rs. 36. Since 10 per cent of this was spent on imports, there will be a further drop in imports to the extent of Rs. 3·6. This will again react on exports and cause a decrease in them by Rs. 3·6, thereby reducing the national income by Rs. 14·4 and entailing a further decrease in imports by Rs. 1·44 ; and so the process will go on, till the total decrease in exports is equal to the original reduction in imports. The sum total of $3.6 + 1.44 + \ldots 576$ is $= \dfrac{3.6}{1-\dfrac{4}{10}} =$ Rs. 6.

Thus the decrease in imports due to the depression in the export industries is exactly equal to the increase in imports due to an expansion in the protected industries.[1]

It is thus evident that if on our assumptions, our tariff policy involves an initial decrease in imports, and if such a decrease in imports is assumed to have its natural reaction on exports, imports cannot be restored to the former level, *whatever the absolute magnitude of the home investment resulting from the tariff.* We have adduced sufficient reasons to show that a decrease in imports is sure to react on exports sooner or later. It is one thing to say that exports and imports must balance and quite another to say that if exports are held tightly at one figure, imports will necessarily catch up with them. In the former case, the equality between imports and exports is supposed to be established by changes in both, while, in the latter, only one side is expected to change.

It should be noticed that while the increase in imports due to an expansion in home investment stops at 6, the decrease in investment due to the depression in exports does not stop at 3·6;

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[1] It should be noted that there may be a lag at each stage in the process depicted above; exports instead of falling exactly to the same extent to which imports have fallen, may fall by more or less. Yet the final result will remain substantially correct so long as there are no extraneous factors in operation, such as an increase in international lending, to support the exports.

it continues, till it wipes out the whole of the increase in imports (i.e., 6.) This is because while an increase in imports does not cause an increase in exports (since it merely fills up the gap caused by a previous restriction of imports), every drop in exports brings about a further drop in imports, which again reacts on exports and thus sets up a cumulative process of deflation. Unlike the increase in imports, the fall in exports is a new source of disturbance in the economic system.

It is, of course, possible to derive conclusions similar to those of Mr. Harrod on certain very special assumptions (which, we believe, have not been proved). If, for example, we assume that so long as costs are unchanged, our exports will go on at much the same level as before, whatever happens to our imports, the whole of the calculation set out above will tumble down. Mr. Harrod appears to believe that exports are independent of imports, while, on the contrary he implies in the same breath, that imports are dependent on exports. This is what it comes to when he says, " So long as exports remain at the old level, the total volume of imports will continue to rise until the amount spent on imports reaches its old level."

The second assumption which is required to justify Mr. Harrod's theory is still more strange. Our numerical example must have shown that

there must be at least some initial fall in imports *so long as the multiplier is less than the inverse of the proportion of income spent on imports.* Let the multiplier be anything, say, as high as 10, but, if the proportion of income spent on imports is less than the inverse of it, say, $\frac{1}{11}$, there must be some fall in imports. Taking our former example, out of an original decrease of Rs. 15, only $15 \times \frac{10}{11} = 13{\cdot}6$ will be restored. Exports must fall by the remaining 1·4, which will set up a cumulative force of deflation that will eat up the increase of 13·6

because, $\frac{1{\cdot}4}{1-\frac{10}{11}} = \frac{14}{10} \times \frac{11}{1} = 15$ app.

Thus, on this assumption, imports cannot by any means be restored to the former level, whatever the size of the multiplier. The assumption required to justify Mr. Harrod's theory is that the multiplier is exactly equal to the inverse of the proportion spent on imports; in that case, the increase in the home investment is so big that imports are promptly restored to the former level and any tendency towards a cumulative deflation in export industries is nipped in the bud!

Although Mr. Harrod has nowhere explained this assumption of his, it is implicit in his argument when he says that the total volume of income will continue to rise till the amount spent on imports reaches its old level. As if there are

no other offsets to an increase in income except the amount spent on imports at every stage ![1] This is a daring assumption and neither Mr. Keynes nor Mr. Kahn who have written on this subject have ever made it.[2] Mr. Kahn has made a detailed study of the various offsets that one has to consider in estimating the probable increase in the aggregate income that may result from a given increment of home investment. Expenditure on imports is only one such offset; there are several others, such as appropriations out of the new income for saving or repayment of capital obligations, allowance for the decrease in expenditure and income elsewhere as a result of the new investment, the fact that a part of the expenditure of the new producers may be met out of stocks and not by new production and so on.

If we take the case of India, the proportion of income spent on imports in this country is

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1 If out of a new investment (and new income) of 100, 25 is spent on imports and the whole of the balance is passed on internally, the multiplier will be 4

$$100 + 75 + \frac{225}{4} \cdots\cdots ; \frac{100}{1-\frac{3}{4}} = 400$$

and the total amount spent on imports will be 100. But if 5 per cent. of the new income is saved and 70 is spent on home-made goods, the multiplier will be less than 4 (i.e., the inverse of the proportion of income spent on imports) and the total amount spent on imports less than 100.

2 See foot-note on p. 28.

It will be noticed that their proposal was *to make use* of the favourable balance to expand investment at home to such an extent that the additional import requirements caused by such an increase in investment will just fill the gap due to the original restriction of imports. (The gap may also be partially bridged by foreign lending, which, incidentally, does not enter into Mr. Harrod's calculation). I wish to emphasise here that this is something entirely different from what Mr. Harrod has argued. While Mr. Harrod tries to show that a protective tariff will by itself stimulate imports so as to restore them to the former level, which is an extravagant claim, the above proposal makes a claim which is much more reasonable, viz., that in the case of a gold standard country, a tariff is capable of maintaining imports only if it is combined with a programme of large scale loan expenditure. In the latter case a tariff is used only as a counterpart of a much wider policy and no attempt is made to justify it in itself. I do not wish to express an opinion here either for or against such schemes of capital expenditure ; my intention is only to emphasise the true purport of the suggestion contained in the Macmillan Report, lest it may be misused to buttress a case for tariffs.

It will be clear from the passage from the *General Theory of Employment, Interest and*

Money which is quoted above that, according to Mr. Keynes, an increase in the favourable balance will, under favourable circumstances, have a dual influence on investment and hence can help to reduce unemployment in two ways. For one thing, it will enable us to offer a direct inducement to the capitalists in the form of a rise in prices and an assured market and thus encourage him to expand production, and secondly, if it leads to an influx of precious metals, it will also have a tendency to lower the rate of interest and thus stimulate home investment. The fact that people realise their claims on the outside world, not in the form of goods, but in the form of gold which is the basis of the country's currency, enables the Central Bank in a gold standard country to expand credit by several times the amount of the new gold imported. The Central Bank concerned, when it finds that its gold reserves are in excess of the usual proportion lowers the rate of interest to stimulate borrowing and thus home investment expands. Thus, the total amount of investment which protection can bring about under favourable circumstances includes not merely the primary employment in the protected trades, and the secondary employment resulting from it, but also this additional employment due to a lowering of the rate of interest.

It should be noted that when considering by

how much imports can increase after an initial contraction, Mr. Harrod is only considering the new investment in the protected trades and the secondary investment resulting from it, and not the additional investment which may result from a possible lowering of the rate of interest. Hence the maximum new demand for imports which we have calculated above and shown to fall short of the original gap between exports and imports created by protection, need not be supplemented by the demand for imports arising out of this indirect source (i.e., the new investment due to a lowering of the interest rate). In fact, if we remember our hypothesis of a period of acute depression and unemployment, no new investment can really be expected from a lowering of the interest rate by itself. Indeed, the whole *raison d'être* of the proposals to undertake direct investment by protection, public works and other means of that nature, originates from our failure to encourage private investment by a mere lowering of the rate of interest. The influx of precious metals under these circumstances cannot, therefore, make any material difference to the investment situation.[1] If the

1 "The acuteness and the peculiarity of our contemporary problem arises out of the possibility that the average rate of interest which will allow a reasonable average level of employment is one so unacceptable to wealth-owners that it cannot be readily established merely by manipulating the quantity of

increased money supply which the imports of gold makes possible is to be put into circulation, a programme of direct capital expenditure will have to be undertaken. This was precisely what was advocated in Addendum I, of the Macmillan Report, as we have just explained. This part of the question is beyond our terms of reference, so to say, but it is a separate proposal and does not, at any rate, justify Mr. Harrod's argument that protection enables imports to be maintained.

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It is almost impossible to verify statistically the extent to which our exports are actually affected by our policy of restricting imports. The long series of repercussions which a given fall in imports sets up has to be traced through the foreign trade of a number of countries before we arrive at anything like a complete estimate of the full impact of our policy on the export trades. Extraneous factors like commercial treaties or preference pacts may further cause the statistical result to deviate from the expected norm. We can, however, always expect to find at least a rough verification of our ideas in trade statistics, especially when the countries concerned are small. In the case of Java, for

money."—Keynes: *General Theory of Employment, Interest and Money,* p. 308.

example, we find that the reduction in our imports of sugar from that country is followed by a reduction in our exports to that country.

	IMPORTS FROM JAVA	EXPORTS TO JAVA
	(in thousands of Rupees)	
1930-31	10,34,17	2,58,69
1931-32	4,84,72	1,70,90
1932-33	3,73,50	70,70
1933-34	2,38,90	44,88
1934-35	1,90,68	48,54 [1]

The following table[2] which gives percentages shows that the fall in our exports to Java is not merely a result of the general depression in that country, but is a relative fall and is, therefore, due to some special factors affecting only *our* exports (such as our policy of protection).

EXPORTS TO INDIA FROM THE DUTCH EAST INDIES.

	VALUE IN 000,000 GULDEN	PERCENTAGE OF TOTAL EXPORTS
1930	133	11·5
1931	58·1	7·8
1932	38·3	7·1
1933	24·2	5·2
1934	19·5	4·0

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1 *Annual Reviews of the Trade of India.*

2 League of Nations: *International Trade Statistics.*

IMPORTS FROM INDIA INTO THE DUTCH EAST INDIES.

	VALUE IN 000,000 GULDEN	PERCENTAGE OF TOTAL IMPORTS
1930	61	7·3
1931	29·8	5·5
1932	17·4	4·7
1933	11·2	3·5
1934	7·9	2·7

Thus, Java not only buys less from us, but buys a smaller proportion of her requirements. It is important to note here that the correlation which we have attempted to establish above is between the total exports and the total imports of the protectionist country and not merely between its exports to and its imports from just those countries which are directly affected by its policy. It should, therefore, be observed that the unfavourable repercussions of our policy do not exhaust themselves in our export trade with Java ; they spread further through the principal countries from which Java purchases her supplies. Because, the deflation in that country affects its purchases from them and they in turn buy less from other countries including ourselves. Thus, each country which takes part in the process pays our surplus claims on it, partly by reducing its imports from us and partly by transferring to us the additional claims on other countries which it gets by reduc-

ing its imports from them. The process tends to operate till the whole volume of our surplus claims is exhausted. Our exports to Holland, for example, which is one of the important countries trading with Java, show a decline which is much greater than the decline in our imports from that country.

EXPORTS FROM INDIA TO NETHERLANDS.[1]

(In Thousands of Rupees.)

1930-31	6,66,71
1931-32	5,09,55
1933-34	4,21,20
1934-35	3,32,99

Our exports to Japan which is another principal exporter to Java do not show a similar decrease, owing to the intervention of the extraordinary factor of the Indo-Japanese Trade Pact of 1933.

While discussing above the process by which a restriction of imports might bring about a restriction of exports, I have emphasised only the deflation which takes place in other countries. This I did, because it is this aspect of the problem which is forgotten by those who argue that exports will not be affected so long as there is no internal inflation. Experience shows that most countries who have suffered a reduction in imports, have preferred the imposition of tariffs as an alternative to deflation. Deflation is a

[1] *Annual Reviews of the Trade of India.*

painful process, while a tariff is an easily available alternative. Thus, once one country gives the signal, the war of a tariff for a tariff begins and continues uninterrupted to the detriment of all concerned. Apart from its purely economical consequences, a tariff is something of a psychological epidemic. It spreads with a surprising rapidity from one country to another. Books on recent commercial history contain several illustrations of this reproductive tendency of tariff legislation.

" Protection has bred protection. The attempt by one country (for example) to check the inflow of world's sugar surplus into its markets or to furnish the requirements of its markets itself has led other countries to retaliate.

" In April 1928, the British Government reduced the duty on raw sugar while maintaining the duty on refined sugar unchanged. This legislation in no way affected the agriculture in England, but benefited the sugar refiner. Refiners elsewhere found themselves deprived of an important market. Since November 1928, the Czechoslovakian Government has accordingly granted sugar factories a refund of trade taxes and a reduction in the business turnover tax on internal trade. At the same time the domestic price of sugar was raised to the profit of the farmer. As a result of this subsidy the competitive power of the Czechoslovakian exporter

on the world market was enhanced. In December, therefore, the German Reichstag and the Austrian Abgeordnetenhaus passed bills raising once more their duties on imported sugar, and in January, 1929, similar steps were taken in Italy."[1]

I must add that in deprecating tariffs as a means of increasing employment, I do not imply that a country may have no use for tariffs in abnormal circumstances. Desperate situations require desperate remedies. But such remedies are always short-lived and any harmful consequences resulting from them have to be tolerated for some extraordinary considerations.

Even if it is found that tariffs are effective in increasing employment owing to the combination of some special circumstances (such as an increase in foreign lending simultaneous with the imposition of tariffs), a country will not be justified in going in for tariffs till other remedies for unemployment have been tried. They give a permanent twist to the economic system by fostering industries which involve a less economical use of the productive factors over a long period. An industry which claims a continuance of protection must, therefore, do so on

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[1] *World Sugar Situation* — Report of the Economic Committee of the League of Nations, p. 13. Cf. *World Agriculture—An International Survey* (Royal Institute of International Affairs) p. 182.

some other ground than that it has helped to reduce unemployment in its own sphere.

Apart from this there is one more vital reason why tariffs should be universally condemned. Tariff-makers, while seeking to advance the economic interests of any one country, create forces that prove inimical to the economic well-being of the whole world. Admittedly, any measure of recovery that one country is able to obtain as a result of its tariff policy is necessarily obtained by giving a proportionate dose of deflation to some other country. This process of cutting at each other's throat, of poisoning each other's fare, of filling your belly by nibbling at each other's ration, must ultimately impoverish all. The more we get ourselves involved in this tangle of tariffs, the farther off we are from any prospect of international co-operation, from any prospect of an early recovery in prices, or of a restoration of the international standard. Being fully conscious of the disastrous lengths to which a country might go in its craze for tariffs, economists like Mr. Keynes have been extremely guarded in their expression whenever they have pronounced an opinion in favour of protection. In his *General Theory of Employment, Interest and Money,* Mr. Keynes has made this explicit reservation that his discussion should be treated only as an elucidation of the *theoretical* basis of tariffs, and not as a recommendation of tariffs

as an instrument of commercial policy.

"Contemporary experience of trade restrictions in the post-war Europe," he writes, "offers manifold examples of ill-conceived impediments on freedom which, designed to improve the favourable balance, had in fact a contrary tendency."

"And finally, a policy of trade restrictions is a treacherous instrument even for the attainment of its ostensible object, since private interest, administrative incompetence and the intrinsic difficulty of the task may divert it into producing results directly opposite to those intended."[1]

Before rushing headlong into a policy of intensive protectionism with a view to creating employment, it would be wiser to investigate the applicability of other alternative means of achieving the same object. A programme of stimulating home investment has precisely this virtue in it that it entails no unfavourable repercussions on the outside world. It not merely acts as a healthy tonic to the country adopting it, but by increasing its consumption of foreign goods it makes other countries its co-sharers in the swing of economic recovery which it generates. Indeed, the salvation of the world from its present economic *debacle* lies not in tariffs, but in a simultaneous pursuit by several coun-

[1] *Vide* pp. 338-9.

tries of a vigorous programme of stimulating home investment. The exact method of putting the programme into practice may differ with the circumstances of each country; while a large scale programme of capital expenditure may satisfy the needs of some countries, some milder means of achieving the same object may be suitable to others. All that is desired to be emphasised here is that any alternative means of creating employment at home which is not accompanied by unfavourable repercussions on the outside world is to be always preferred to tariffs.

When a country is on an independent standard, it has a much greater latitude for prosecuting such programmes of stimulating home investment than when it is on an international standard. The reader must have noticed from the reservations inherent in Mr. Keynes' theory which I have set out above[1] that he would not recommend tariffs to a paper standard country. This raises the question: What is the theoretical position when a country is on an exchange-standard?

When several countries are linked together by means of an exchange standard, all of them will have to co-operate and simultaneously embark on a programme of expansion (in case it is a large scale one), if they are not to lose their

[1] *Supra* pp. 8-10.

exchange resources to one another. Naturally, the more important among them will set the pace. The fact that they simultaneously take action will enable them to maintain the exchanges as between themselves without much difficulty, while the fact that currencies which are so linked act as a joint family vis-a-vis the rest of the world, will enable each one of them to remain relatively stable in terms of world currencies. Thus, an exchange standard may achieve the best of the both worlds. It is at least partially free from the extreme instability of exchanges which is the notorious defect of the paper standard and thus secures at least a part of the advantage of the gold standard; while at the same time it lessens the main disadvantage of the gold standard viz., the difficulty of securing the co-operation of a number of countries in the world in order to ensure simultaneous action; the countries within the area of an exchange standard being just a few, who know each other and have agelong family relations with each other. An Imperial Conference convened with these objects in view has a greater chance of success than a World Conference.

CHAPTER II

PROTECTION AND INDUSTRIALISATION

IT will not be possible here within the limited space available to present a text-book summary of all the hackneyed arguments for and against protection. It may suffice to emphasise that more often than not the case for protection is based on a theoretical ratiocination rather than on any practical examples. If there is any lesson to be learnt from the examples of the United States of America and Germany where the policy has been pursued *à outrance,* it is this that the nursing of infant industries is a highly speculative venture. If what Professor Taussig[1] says is correct, it takes about thirty years for an industry to grow and if at the end of this long period an infant is found unworthy of protection, it becomes next to impossible to withdraw it, because by that time the infant has won the affections of innumerable persons and groups whose wishes even the most autocratic Government cannot defy.[2] The general experience is that protec-

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1 *Some Aspects of the Tariff Question,* p. 22.

2 " In fact, after a national has once tasted the stimulus of protection, commercial freedom is either impossible of attain-

tion, instead of quickening the growth of industries, only retards it, so that an infant industry, however fat it may grow under the ægis of a high tariff, seldom acquires the necessary muscular strength to brave the risks of life unaided. For this reason, protection is sometimes considered to be a more suitable tonic for "adolescents" than for "infants." [1]

If the burden on the consumer is to be minimised, the period of protection has to be as short as possible. I think, this point is of fundamental importance in a poor country like India where a rise in the cost of living will mean great hardships to the masses. It is *the length of the period* for which protection is granted that increases the risks of the experiment, that streng-

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ment, or can be attained only through a struggle so great as to mark an epoch in financial legislation. In theory, protective duties should be high when first imposed and decline as nations learn the lesson of manufacturing skill. In fact, they begin with a moderate charge and raise it higher and higher each succeeding year." Adams, *Finance*, p. 417, quoted by Pillai, *Economic Conditions in India*, p. 323.

[1] "The difficulty is that protective tariffs can appreciably accelerate industrial development, without a crushing burden on the consumers only if they are applied at a stage at which an advantage over competing imports will give the necessary fillip to carry them over the period of adolescence.

"The result of the inquiries and work of the Tariff Board lead one to the conclusion that, with one or two exceptions, Indian industries have not yet reached this stage and that protection will not prove a royal road to industrialisation. On the other hand, revenue is of the utmost importance." Dr. Vera Anstey : *Economic Development of India*, pp. 362-3.

thens vested interests, reconciles public opinion and stabilises inefficiency. A country's march towards the goal of industrialisation by means of protection must of necessity be very slow. If this conclusion is firmly held in mind, it will not be difficult for the reader to agree that a country is not really ripe for protection till all those social and economic evils which eat into the vitals of the country and make its people chronically inefficient, such as illiteracy, indebtedness, the prevalence of outworn methods of production, deficient road system, inadequate banking facilities, backwardness in research and so on, must be first removed, reduced or brought under control.[1] This is also quite compatible with a national investment programme to which a reference has been made above as an alternative to protection for increasing employment. The problems of research and, for the matter of that, of all those economies which are not vitally dependent on a mere enlargement of the scale of the industry, should be first solved before protection is granted. A

[1] Cf. "We are thus led to the conclusion that India is not yet sufficiently developed to reap the full fruits of a policy of protection, and that the benefit that the country may derive under it is, under present conditions, more than likely to be nullified by the sacrifices it is sure to involve. A great deal has yet to be done to create those organisations and systems which are a condition precedent to a developed industrialism."—Pillai : *Economic Conditions in India,* p. 328.

protective tariff can be of a short duration only if it comes after such a development.

Let us proceed to the question how far protection may by itself help the *development* of an industry (as distinct from its mere *maintenance*) by reducing the costs of production and whether subsidies may not be a better means of achieving the purpose. (We may take it for granted that sometimes a small measure of protection may be justified merely for the *maintenance* of an industry on its present scale.) The immediate consequence of a protective tariff is only to widen the market and to encourage a multiplication of firms. A protective tariff, therefore, has a direct bearing only on the scale of an industry and those external economies which a mere enlargement of the scale may yield ; but it has only an indirect bearing on internal economies and that, in so far as it increases the profits of the supra-marginal firms.[1] It increases the profits of such firms by expanding total production at a higher marginal cost and thus stimulates them to achieve economies ; but it is less certain in its effect than subsidies directly given to efficient firms on certain definite and easily

[1] "Internal economies" may be briefly defined as those which result from a change in the scale and structure of an industrial unit, while "external economies" are those which arise independently of a change in individual units, due to an enlargement of the scale of the industry.

intelligible principles. It should be obvious, then, that tariff protection may be a more suitable form of assistance only for those industries in which external economies are the principal factor in reducing the cost of production, while for industries in which a reduction in cost depends mainly on internal economies, subsidies to efficient firms or other forms of assistance such as state expenditure on research, may be more suitable than protection which has only an indirect bearing on internal economies. Internal economies, moreover, depend to a very large extent on the size of the industrial unit, and while protection is sure to enlarge the scale of the industry, it may do nothing to the size of the industrial unit ; it may simply lead to a mushroom growth of firms without an increase in size.[1] In this respect also subsidies are a better form of assistance than protection, because they facilitate a concentration of production in a few efficient firms. Even if a case has been made out for protection, protective duties should never be so high as to enlarge merely the scale of an industry, least of all to enlarge it upto the

1 "The increase in the volume of production which protection might stimulate, could take the shape either of the multiplication of firms in the protected industry, without any increase of scale or of an increase of scale without any increase in the number of firms ; only on the latter hypothesis would there be much reduction in costs."—Prof Henry Clay : *The Post-War Unemployment Problem,* p. 112.

limit of home consumption, till all those internal economies which are more or less independent of the scale have been already achieved. This will ensure an important result in that there will continue to remain at least some measure of foreign competition in the country, till the industry reaches almost its final stage of development in which it is within sight of a fully competitive efficiency.

Much of what has been said in the foregoing two paragraphs is an attempt to give a logical elucidation of what is really meant by those who say that the development of the sugar industry in India has been too rapid to be healthy. It may be pointed out, briefly, that the problems of the sugar industry are essentially problems of research (research on improved varieties of sugarcane, on the utilisation of by-products and so on), of efficient methods of sugarcane cultivation and marketing (problems which are inter-related with the wider problem of general agricultural efficiency and rural development), of manufacturing economies (i.e., improvement in extractive efficiency, in other manufacturing processes, etc.) and of organisation. Now, how many of these economies were vitally dependent on a mere expansion of the scale of the industry? If one examines the production costs of sugar, do not these three items,—viz., a reduction in the cost of cane, an improvement in

extractive efficiency and the utilisation of molasses,—stand out as the central problems of the industry? All these problems are pre-eminently problems of research, which could have been more successfully tackled by giving subsidies to research organisations and to efficient firms than by a high level of protection. The item in which there is the greatest scope for reduction is the cost of cane, which forms more than 50 per cent of the total cost of sugar.[1] Even the Tariff Board, in making the forecast that the cost of production of sugar might fall by Rs. 1-9-4 at the end of the period of protection, depended on a reduction in the cost of cane by Rs. 1-8-10 per maund of sugar.[2] The Indian sugar industry has still a long way to cover in this respect. While the average yield of cane in India worked out at about 15 tons per acre, according to the production figures for 1934-35, the average in Java is reported to be 55·01 tons per acre. "The highest figure reported (for Java) was 67·19 tons per acre while the lowest reported was 47·09

1 Contrast the steel industry in which iron costs less than a tenth of the value of the finished product.

2 *Report*, p. 69. "The future of the sugar industry depends mainly on the cost of producing the primary material, viz., cane, and the problem is, therefore, one of protecting a particular branch of agriculture until such time as improvements in methods of cultivation and developments in research enable the agriculturist to increase his yields per acre" *Report*, p. 27.

tons per acre."[1] Obviously, a reduction in the cost of cane is a factor which depends on two things — the evolution of improved varieties and improvement in methods of cultivation. Neither of these is helped by a mere expansion of production. The evolution of improved varieties is a problem for the Research Council to tackle, in which neither the capitalist (however you may swell his profits) nor the agriculturist is likely to be of much help. The agriculturist may, perhaps, be encouraged to improve his methods of cultivation if he is assured of a rise in the price of cane; but is protection of the white sugar industry an effective means of raising the price of cane? By no means. The price of cane falls as its production expands under the stimulus of protection; and in so far as the increase in production is due to an expansion of the area, and not to improvement in cultivation, the fall in the price of cane will mean a reduction in the cultivator's income per acre. Thus, protection instead of helping may actually hinder the spread of improved methods.[2] Hence, the only direction in which

[1] R. C. Srivastava : *Review of the Sugar Industry of India during the Official Year 1934-35*, pp. 4 and 24.

[2] For a fuller discussion of the agricultural aspect of sugar protection see Chapter IV. As regards the efficacy of protection in securing a reduction in the cost of cane, Mr. Noel Deerr, who is an eminent authority on sugar, wrote in 1932 as follows :
"The extension of planting has been great, the price received

a reduction in the cost of cane is to be attempted is research on improved varieties. It is here that we discover the utter inability of the protective tariff to attack what is really the crux of the problem of reducing the cost of sugar.

In fact, such progress as has been already achieved in research is for the major part the result of the efforts made by Government agencies which did not require any stimulus of protection. Indeed, when one comes to think of it, one feels that the substantial amounts of revenue which Government has sacrificed as a result of its protectionist policy could have been conveniently and with much better results devoted to the task of enhancing the efficiency of agricultural production and marketing, by research, propaganda and provision of credit.[1]

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by the grower remunerative and there has been an immediate and opportunist profit to both the grower and the miller. But there has been no amelioration in agricultural conditions or tendency to a reduction in the cost of a unit of sugar as in cane delivered alongside the carrier, and this remains the dominant factor in the cost of production of sugar itself.

"Indeed, there are reasons to believe that the combination of protection and existing conditions may tend towards depressing the standard of agriculture. With artificially inflated prices the incentive to toil is withdrawn and it is to be feared that the Indian small holder will yield to this temptation." (*Capital*, September 22, 1932.).

[1] Cf. "We propose that increased sums should be allotted to development and research work, since without such measures the whole purpose of the protective scheme is likely to be delayed, if not defeated. *Indeed, we regard this as almost a condition precedent to protection.*" *Report of the Tariff Board on the Sugar*

II

Very often in popular discussions about protection there is a tendency to make a fetish of self-sufficiency. The fact that within a year or so the sugar industry in India will be able to satisfy the whole of the internal demand for sugar is considered by itself to constitute an important achievement of the industry. The following passage taken from a book whose authors derive their inspiration as much from philosophy and politics as from pure economics, will show how the concept of self-sufficiency can be glorified into a national ideal.

" As the individual has revolted against an order which seeks to degrade him to the position of a machine and has asserted his claims to be treated as a man, so nations in our time have refused to be specialised. And all of us who to-day claim the urgency of industrialisation will do well to remember that the ultimate ground on which such a claim should be founded is the need for national self-assertion, the desire on the part of India to live the highest life which is possible to her under God's dispensation. As

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Industry, p. 83. If an increased provision for research is a condition precedent to protection and if it is a fact that protection affects revenue, is not Government faced with a real choice between (1) an increased provision for research and partial protection and (2) full protection and no increase in the provision for research ?

the realisation of a full life on the part of the individual presupposes freedom from the uncertainty of finding his daily bread, so a full national life presupposes economic self-sufficiency on the part of the nation." [1]

Into this highly philosophic peroration about a full national life, considerations of costs and prices, which are low, mundane matters, simply do not enter. If they do, these high-sounding phrases, "the need for national self-assertion" and "the highest life which is possible to India under God's dispensation" will appear to be meaningless shibboleths. It is contrary to all the accepted beliefs and principles of economics to say that it will ever be possible for a country to attain the so-called "highest life" through a blind pursuit of economic self-sufficiency. There is, unfortunately, a school of economic thought (or may I say, economic propaganda) in this country which fulfils its mission by nurturing young minds on such empty phrases. I do not deny that self-sufficiency in certain key industries may be a war-necessity. If, however, self-sufficiency is going to be the main guide of our fiscal policy, there must be few industries in this country which will not be able to satisfy the whole of the internal demand provided a sufficiently high level of

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1 Wadia and Joshi : *The Wealth of India,* pp. 328-9.

protection is granted. And once we start on our programme of making the country self-sufficient in the articles at present imported, where are we to stop ? It is not seriously contended that we have natural advantages for all or even the majority of the articles at present imported. If, then, we pursue our policy to its logical conclusion, it must inevitably lead to an inordinate rise in the cost of living. Let it be noted that this is not a monetary rise ; it is due to the fact that it costs more labour to produce an article at home than to import it from abroad. The so-called full national life, therefore, means neither a rise in the standard of living, nor a rise in the national income; it simply means a permanent rise in the cost of living, which impoverishes some consumers to provide consumption for others. If this is the real import of this high national ideal, I wonder how it does not occur to its prophets that it can be much more easily or, perhaps, more equitably secured by some other means such as providing unemployment relief out of fresh taxation or by restricting the hours of work in existing industries. In neither case does the country become richer than before.

III

If the idea of self-sufficiency deserves to be condemned as being incompatible with the

higher object of maximising the national dividend, so does the argument that protection should be used as a means of securing a high degree of industrialisation. The policy of " discriminating protection " which in its very nature has to be circumscribed with many restrictions has been found highly unsatisfactory by some Indian economists who would like protection to be given as liberally and as promptly as possible, both to existing industries and to industries not yet born. The following is, I think, an excellent specimen of the way in which the goal of protection is often enunciated in this country by people who claim to have studied the problem of the Industrial Policy of India.

" This means " writes Professor C. N. Vakil, " that we should have a policy of protection unhampered by any conditions, comprehensive in its application, designed to develop industries large and small, existing and potential, both for the home and the foreign markets, with a procedure which shall aim at a rapid industrialisation of the country, accompanied by suitable and effective arrangements to see that the gains of such development are mainly enjoyed by the nationals of the country." Lest the reader may doubt whether the purport of this sentence was ever seriously intended by the writer, I shall give another specimen of the same type : " In order to have maximum production, the policy

should be comprehensive and embrace all possible industries, large and small, existing and potential, for which a reasonable field is available. *This means that it should not be restricted by the kind of limitations now in vogue such as the condition that the industry should be such that it would eventually face world competition without protection."*

Enough has been said above to indicate the sheer absurdity of a policy of reckless protectionism from the standpoint of economic welfare and I need not waste any more space here on the oft-exploded myth of maximum production by means of maximum protection which the learned Professor so devoutly cherishes.[1] The only question that remains : If protection is strictly confined to industries which are held to be worthy of it on the sole test of eventual independence, will it really help to secure a high degree of industrialisation for the country? The answer is decidedly in the negative. Of the various industries which applied for protection only an insignificant number was adjudged to be worthy of it by the Tariff Board, and statistics show that even if these industries develop to the farthest limit of expansion, they will not be able to absorb more than an insignificant proportion of our total population. Industria-

[1] See Professors C. N. Vakil and M. C. Munshi : *Industrial Policy of India*, pp. 63-6 ; also pp. 48-9.

lisation by means of protection is, therefore, a chimerical proposition. Let us consider the relevant statistics regarding the more important of the industries considered worthy of protection by the Tariff Board, viz., cotton, iron and steel, sugar and matches. According to the Census Report (1931)[1] out of a total working population of 153,916,000, the textile group employed 4,102,000, of whom cotton factories accounted for 492,284 ; the iron and steel factories engaged 30,484, sugar 15,203, matches 17,137. Sugar production has made a rapid advance since 1931 and it is now claimed that it employs two lakhs of workers. In the case of all these industries, moreover, local production already accounts for a preponderant proportion of domestic consumption and the scope for securing further employment in them by exclusion of imports is very limited. While the total consumption of sugar is estimated at 1,000,000 tons, the factory production estimated for the current year is more than 800,000 tons. Similarly, in 1934-35, the total consumption of cotton piece-goods was 577 crores of yards, out of which only 9 crores were imported. The figures regarding pig-iron and iron and steel manufactures tell the same tale. While the total production of these in 1934-35 was 2,885,000

1 See *Census Report* (1931), Supplementary Tables to Chapter I.

tons, their imports amounted to 370,000 tons. In the case of matches also, we now buy only 54,000 gross from other countries, while our average imports during the post-war period amounted to 12·7 million gross.[1] This method of approach was suggested to me by a similar attempt made by Mr. P. K. Wattal to estimate the opportunities for further employment in Indian industries.[2] His conclusion also is that such scope is extremely limited and is, further, out of all proportion to the probable growth of the Indian population in future.[3]

IV

To put the matter in a nut-shell, even if protection is confined to industries adjudged to be worthy of it on the highest scientific criteria, it

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1 *Review of the Trade of India 1934-35*, pp. 31, 39, 57, 183, etc.

2 P. K. Wattal : *The Population Problem in India*, Chapter VIII, pp. 153-60.

3 Dr. Gilbert Slater has expressed very nearly the same view : "The dominant opinion in India finds the solution of the problem in rapid industrialisation by means of a protective tariff. It would be a great achievement if in ten years these (factories and workshops) were increased to such an extent as to double the number of hands employed. But even this would only accomplish the absorption of workers, together with their dependents to the number of about a quarter of a million per annum." (Introductory Note to *Economic Conditions in India*, p. xv) The increase in population between 1921 and 1931 was 3·25 million per annum.

See also Dr. H. L. Dey : *The Indian Tariff Problem*, Chapter I, (Sec. 5-12).

is found to be grossly inadequate for the attainment of either of its ostensible objects, viz., an increase in the aggregate volume of employment and a higher proportion of industrial employment.

But does this lead to the conclusion that protection is at the worst only an ineffective expedient? No. It is harmful as well as ineffective. If our object is to promote a healthy economic progress, nothing that we do must be such as to impair the capacity of persons or bodies which are to act as the motive agencies of such progress. Granted that there is no material reduction in the national income as a result of a particular policy, the further increase in it will be retarded if the proportion of it accruing to the leaders of the nations' activity rapidly falls. That is the reason why a growing body

The following table shows the stupendous nature of the task of industrialising this country.

	1911	1921	1931
		(000's omitted)	
Total population	315,156	318,942	352,837
Working population	153,916	146,414	148,885
Population engaged in industry	15,352	15,715	17,506
Percentage of total population engaged in industry	4·7	5·0	4·9
Percentage of working population engaged in industry	9·7	10·9	11·4

Compiled from the *Census Report* (1931).

of economic opinion no longer favours a fall in the price-level even if it is due to a fall in costs, mainly because it reduces the attractions of activity for entrepreneurs who are the captains of industry. What the entrepreneur is to an industry, the state is to an undeveloped nation. There is no doubt that protection leads to a reduction in the public revenue except in so far as it has the highly problematical result of bringing about an increase in the national income. Consequently, it impairs the capacity of the state to foster those multifarious activities which will really promote the economic development of the country and advance the interests of the millions of people who have not been able to enjoy any of the possible benefits of protection. If, therefore, it is shown that protection, even when judiciously applied, not merely helps only a minority, but in doing so, eats up a disproportionate share of the limited financial margin which is available to the state for economic development, and thus impairs the state's capacity to help the majority which is looking up to it to play a leading role in numerous activities which are vital to the economic future of the country, such as, for example, the provision of agricultural credit, rural development, road-making, development of small-scale industries,

various other measures for helping industry besides protection, the spread of education and so on, the case for protection must be considered to have failed.[1] It is such a comparison of rewards and sacrifices that has persuaded some of the most impartial observers of Indian conditions to vote against protection. "The fact," writes Dr. Vera Anstey, "that customs now hold such an important position as a source of revenue influences fundamentally the possibilities of inaugurating a far-reaching policy of industrialisation by means of protection. In the absence of alternative sources of revenue, if the Government is to be enabled adequately to carry on its manifold functions, India's tariff policy must primarily be directed by revenue considera-

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1 A possible reply to this argument is that the loss of revenue due to protection can be made up by fresh taxation. In the first place, the number of new ways in which a community can be taxed is not unlimited. Secondly, the whole of the loss of revenue cannot be made up by taxing the protected producers, especially where the pre-protection duty was on a high level. A good part of the new taxation will have to be borne by tax-payers other than the protected producers and there must be some limit to the extent to which such a shifting of burden can be justified. The inherently regressive character of protective duties becomes worse if the exigencies of revenue require fresh taxation to be imposed on the masses. (See *Report of Indian Taxation Enquiry Committee,* Vol. I. p. 121).

Finally if, through a natural process of development, customs have come to occupy a dominant position in the public revenue, it will not be easy to reverse artificially the relative proportion between customs and other sources.

tions."[1]

Successive Finance Members of the Government of India have stoutly maintained the same view. Sir George Schuster said in his Budget speech of 1934, "This case of sugar industry is an illustration of the great cost of protection to the country and it is essential that the public should realise that if the development of local industries is to be obtained at this cost, then the public services of the country cannot be maintained unless other methods of indirect taxation to replace such loss of customs revenue are adopted." The same opinion has been expressed by Sir James Grigg, who said in the Assembly on the 19th March 1936, "There will have to be large increases of taxation, because of the falling yield of customs tariff and yet the yield of that taxation will fall."

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1 *The Economic Development of India*, p. 389.

CHAPTER III

THE BURDEN ON THE CONSUMER

NOW that we have found a definite reply to the question how far protection can help to increase the national income and how far it is a proper means for securing a high degree of industrialisation for the country, we can address ourselves to the further question to what extent protection is a burden on the consumer. If there is no increase in the national income as a result of protection and if it costs more to produce the protected article at home than to import it from abroad, protection must be said to be a burden on the consumer. There are three methods of estimating this burden — one method is to compare the present prices with the prices which ruled before protection was granted; the second is to compare the price of the locally made article with the ex-duty price of a similar article imported from abroad *plus* the revenue duty; and the third is to compare the price of the locally made article with the ex-duty price of the imported article only. As we will see, only the third method is a scientific one. I think, in the case of sugar it was the Tariff Board which first accustomed people to think along the lines

of the first method. While discussing the question whether the level of duties which they proposed was such "as to bear hardly on consumers", they compared the pre-war prices of sugar and its prices in 1921 and 1922, with what they considered to its probable future price and concluded, "Our proposals, therefore, involve no large increase in the price which the consumer is accustomed to pay."[1] They even went so far as to say, "It is interesting to observe that the increase in the revenue duty has been followed by a decline and not an increase in price."[2] The actual course of Java sugar prices has been as follows:

YEARLY AVERAGE PRICE OF JAVA SUGAR IN CALCUTTA[3]

Year.	*Per maund.* Rs.	a.	p.
1923-24	18	0	0
1924-25	14	4	0
1925-26	10	15	0
1926-27	11	14	0
1927-28	10	7	0
1928-29	9	13	0

[1] *Report of the Indian Tariff Board on the Sugar Industry*, p. 90.

[2] *Report*, p. 23.

[3] *The Indian Trade Journal*, Aug. 13, 1936, p. 876 and M. P. Gandhi : *Indian Sugar Industry, Its Past, Present and Future*, p. 61.

1929-30	.. ..	9	0	0
1930-31	.. ..	8	11	0
1931-32	.. ..	10	1	0
1932-33	.. ..	10	10	0
Price on 7th Aug. 1936	..	9	14	0

Taking their cue from the statements made by the Tariff Board, the supporters of sugar protection are trying to make capital of the fact that the price of sugar is lower to-day than what it was before protection was granted.[1] I feel highly doubtful how far this is a truly scientific way of looking at the matter. There have been such tremendous ups and downs in the national income and the general level of prices since 1914 and even since 1921 and 1922 (which the Tariff Board and some other writers take as the basis for their comparisons) that to compare the prices ruling in those years with the present prices is a travesty of the matter. In the period 1920-22 the wholesale prices in India were about 100 per cent higher than they are to-day; our national income was proportionately higher and we could,

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[1] *Commerce*, Feb. 22, 1936, "How India has benefited from Sugar Protection."

Mr. E. F. Groombridge in *The Times of India*, Feb. 1936;

M. P. Gandhi: *Indian Sugar Industry*, (1936) Annual, pp. 24-28.

Sir T. Vijayaraghavacharya has also expressed the same view. (*The Times of India*, August 6, 1935 and July 19, 1936.)

therefore, easily afford to pay a higher price for sugar. I give below a table comparing the trend of the price of sugar with that of other prices since 1929.

CALCUTTA INDEX NUMBER OF WHOLESALE PRICES[1]

(*July 1914=100*)

Year	*Sugar*	*All commodities*
1929	162	141
1930	149	116
1931	135	96
1932	146	91
1933	131	87
1934	125	89
1935	128	91

It should be clear from this table that while the general level of prices (and, presumably, the money income of the community also) has fallen by 35·5 per cent since 1929, the price of sugar has fallen only by 21 per cent, which means that we are paying to-day for our sugar much more in terms of our labour than we used to, before 1929, in spite of the high prices ruling in those years.

This rise in the "labour-price" of sugar is all the more remarkable, because in the last few years our principal suppliers have made tremendous strides towards reducing the cost of

[1] *The Indian Trade Journal*, August 13, 1936, p. 795.

production. I will elucidate this matter further in chapter V. The world price of sugar in gold francs fell from 27·99 per quintal in 1928-9 to 10·96 in 1934-35, i.e., by as much as 61 per cent[1]! During the same period the average price of Java Sugar (in Calcutta) fell from Rs. 9-13-0 to about Rs. 9-2-0 per maund. The price of imported sugar is thus kept at an inordinately high level by the protective duty. The present rate of duty works out at something like 200 per cent of the c.i.f. price. The fall in the price of foreign sugar is partially due to the existence of huge stocks ; but to a large extent it is due to a fall in the cost of production.

Sugar being one of the necessaries of life, the demand for it is of a very limited elasticity. Since the price of sugar has not fallen to the same extent to which the general price-level has fallen, there must have been a relative increase in the total expenditure on sugar. This inevitably means that sugar has encroached upon the consumption of other articles. Among the offsets to the increased employment in the sugar industry, therefore, one has also to consider the decreased employment in other industries due to this cause, in addition to the depression in the export industries. Statistical verification of this fact is difficult to find. How-

1 League of Nations : *Statistical Abstract for 1935-36.*

ever, it may be added for what it is worth that between 1921-22 and 1932-33 in an average working class budget in Bombay, the expenditure on sugar rose from ·58 per cent of the total monthly expenditure on food to 1·99 per cent; while the total monthly expenditure on food showed a reduction from Rs. 27-2-11 to Rs. 21-6-10 during the same period.[1] This supports our conclusion that sugar has encroached upon the sphere of other food industries.

II

As said above, a protective tariff has an adverse effect on the public revenue. As imports fall, more and more of the revenue resulting from the revenue duty is transferred from the State to the local producers.[2] But the State cannot retrench its essential services nor can it bor-

[1] *Report on an Enquiry into the Working Class Budgets in Bombay,* 1921-22, p. 100; 1932-33, p. 43.

[2] The protective duty on sugar, for example, has greatly affected the customs revenue, as the following figures show :—

CUSTOMS REVENUE FROM SUGAR
(*in* '000's *of Rs.*)

1930-31	10,78,97
1931-32	8,10,07
1932-33	6,84,79
1933-34	4,72,04
1934-35	3,81,34
1935-36	3,24,15

As against this, we have to set off the yield of the excise on sugar. [*Note continued on p. 75.*

row for its recurrent needs. The state has, therefore, to impose fresh taxation, the major portion of which falls on persons other than the protected ones. (Because, if the whole of the revenue duty is exacted from the protected producers, protection will well-nigh disappear.)[1] The consumer, accordingly, not only pays the duty to the protected producer, but has also to pay new taxation to the Government ; which means that the demand for products other than the protected ones will suffer and employment in other industries will fall off. This must be so, because while the national income is constant, the consumer is paying the same amount to the State as before and a higher amount to the sugar producer. If *pari passu* with the transference of the revenue duty from the state to the protected producer, employment in the State services which corresponds to the yield of the revenue duty is also transferred to the protected industry, the burden on other industries would be limited to the extent to which the price of the home-made product rises

Note on p. 74 continued.]

Excise Revenue from Sugar.

1934-35	97,22
1935-36	1,58,82

(*Review of Trade of India* (1934-35), p. 262 and *Monthly Accounts of Sea-borne Trade*, March 1936, p. 280)

1 The revenue duty on sugar in 1925 was Rs. 4-8-0 per cwt. If the excise duty had been as high as Rs. 4-8-0, the whole of the benefit of protection would have been wiped out.

above the ex-duty price of the foreign product *plus* the revenue duty. In actual conditions the State maintains its services by imposing fresh taxation and the burden on the consumers and other industries is aggravated. Incidentally, it also becomes clear that even if there is no rise in the price of the local product above the ex-duty price of the foreign product *plus* the revenue duty, there will continue to be a burden on other industries to the extent to which the public revenue is curtailed as a result of the protective tariff, and fresh taxation is imposed to restore it to the former level. In 1930, a tax-payer in India was spending Rs. 6 per cwt. on sugar (the ex-duty price) and contributing Rs. 6 (the revenue duty on sugar in 1930-31) towards the maintenance of the State services. Let us suppose, for simplicity's sake, that he was paying no other tax and was spending the rest of his income on other articles. When, as a result of protection imports begin to disappear, the State loses the customs revenue of Rs. 6 which it makes up by imposing another tax of the same amount ; and the consumer's expenditure on sugar rises from Rs. 6 to Rs. 12 per cwt., assuming that the price of the local product exceeds the ex-duty price of the imported product by no more than the revenue duty. Thus, the consumer's total expenditure on sugar and the state services which was

Rs. 12 before protection, becomes Rs. 18 after protection. Since the total income is constant, it is inevitable that the expenditure on the products of other industries should fall off. The conclusion is that protection continues to be burdensome to other industries even if the cost of production of the local product does not exceed the ex-duty price of the imported product by more than the revenue duty.

This conclusion is of great practical value. It is valuable in two ways. In the first place, nobody who has followed the foregoing analysis will ever be satisfied with the wearisome attempts made by the sugar protogonists to minimise the burden of protection by saying, "The burden on consumers has been kept at a minimum due to the internal competition which has been brought into play and due to which there has been a great fall in the price of sugar especially in internal markets since the date of the grant of protection to industry."[1] All that this means is that internal competition has prevented sugar prices from rising upto the highest limit which is set by the protective tariff. This does not mean that protection has ceased to be a burden. Even if it is granted for the sake of argument that "the policy of protection has ena-

1 M. P. Gandhi: *Indian Sugar Industry* (1936) Annual, p. 27,

bled the consumer to get his sugar *cheaper*,"[1] it does not follow that protection has ceased to be a burden. Since protection does lead to a loss of customs revenue which is not compensated by an increase in the yield of other taxes (since there is no increase in the national income), and has to be made up by fresh taxation, the burden of protection continues so long as the price of the local product exceeds the ex-duty price of the imported product by any amount. It will cease to exist only when the local cost of production falls to the level of the foreign costs of production plus the cost of transport.[2]

The price of the Java sugar at present (7th August 1936) is Rs. 9-14-0 per maund at Calcutta, i.e., Rs. 13-7-0 per cwt. Allowing for

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[1] M. P. Gandhi : *op. cit.* p. 27.

[2] The cost of production of sugar in different countries.

	Rs. per md.
Java .. .. .. under	3·92
Cuba	4·05
Fiji	5·92
British West Indies	5·96
Hawai	6·53
India	7·56
South Africa	7·58
Germany	7·65
Formosa	8·46
U. S. Beet	9·00
Australia	11·09
Argentine	11·70

(*The Indian Tariff Board* : Written Evidence, p. 216).

the duty of Rs. 9-1-0, the ex-duty price works out at Rs. 4-6-0 per cwt. The price of the first grade sugar made in Cawnpore factories (Marhowrah, Crystal No. 1) is Rs. 8-6-0 per maund, i.e., Rs. 11-6-0 per cwt. This means that the Indian consumer and tax-payer is paying Rs. 7 more for every hundredweight of sugar made and sold by Indian factories than he would if protection was withdrawn. Of course, this figure is only a rough one, and one cannot estimate the total burden of sugar protection by multiplying the total sugar production by this figure; because our calculation makes no allowance for two factors: (a) the difference between the two price-sets will differ with grades and (b) the average cost of distribution is less for the Indian sugar than for the imported sugar.[1]

Secondly, the above conclusion leaves no doubt in our mind as to when a protected industry can be said to have reached the fully competitive stage. We might rather state our conclusion negatively. A protected industry should not be held to have reached the competitive stage just because it is able to compete with the foreign industry *in the home market* under the

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1 A correspondent of *The Times of India* (March 21, 1936) has estimated the total burden to be 10¼ crores. This he has found by adding the burden due to the difference in the *present* prices to the *future* fall in revenue. For other reasons also (which are stated above) the estimate can be treated only as a very rough one.

shelter of a revenue duty. Thus, sugar protection cannot be considered a success if the sugar industry merely reaches a stage when it is able "to dispense with protection" for the home market, because, this will mean, for all practical purposes, only to face a reduction of the duty from Rs. 9-1-0 to Rs. 4-8-0 per cwt. The question whether a particular industry has ceased to be burdensome or not cannot really be finally decided till its costs of production fall to the level of foreign costs *plus* the cost of transport. And, let it be understood, that at this point the industry only ceases to be a burden.

It does not become a substantial advantage to the consumer till it reaches the further stage when its costs fall to the level of foreign costs and not merely to the level of the ex-duty price which includes both cost and freight, so that it becomes actually cheaper to produce the article at home than to buy it from abroad. When that stage is reached, the industry is able to dispense with even the natural protection afforded by transport costs and it should even be possible for some efficient firms to develop an export trade. In a fully competitive stage, therefore, the protected industry should not only be able to forego the incidental protection afforded by a revenue duty, but must also cease to take advantage of the natural protection afforded by transport costs ; it is only then that it becomes

a positive advantage to the consumer from the point of view of cheapness. This stage is not far off from the next stage when the local industry is able to compete with the foreign industry, not merely in the home market, but in the world market also.

Few of the sugar protagonists will like this conclusion that the development of the Indian sugar industry will not become a great advantage to the consumer till the dim, distant future when the cost of production of Indian sugar is substantially lower than the c. i. f. price of the Java sugar. And since the freight on sugar from Java to Calcutta is very small in relation to the price of sugar, only 3 annas per maund, this will mean, for all practical purposes, that the costs in India should be equal to the costs in Java and the Indian sugar should be able to compete with the Java sugar in the world market also, if the consumer in India is to make a substantial saving on his consumption of sugar, and if there is to be a substantial increase in the national income as a result of the development of the sugar industry. The reader will remember that we are considering the question here from the point of view of *cheapness* only. It may be that the mere fact that we have a developed industry in this country may enhance the well-being of the people in a variety of ways. But this does not diminish the importance of the above

reasoning, because, whatever the advantages of industrialisation, we must know at what cost we are obtaining them.

This elaborate discussion of the concept of the competitive stage may appear superfluous to some readers. But the fact is that the third condition of the Fiscal Commission, that the industry should be able eventually to face world competition, has actually been the subject of a variety of interpretations which are not theoretically justifiable. The following passage, for example, maintains exactly the same ideas as I have refuted above. "The Indian industry is at a considerable advantage as compared with other countries in having a very large home market. *The world competition therefore which concerns the industry is only in the home market*....The industry should eventually be able to face competition in the home market *with only a small revenue duty on Java sugar.*"[1] I would only add that the revenue duty will yield no revenue if it is to serve its real purpose. Further, how can the industry increase employment and income in the country unless it reduces its costs to the same level as the costs in Java, or at least to a level which is lower than the ex-duty price of the Java sugar?

[1] Memorandum submitted by Mr. R. C. Srivastava to the Indian Tariff Board. (*Written Evidence*, p. 192).

III

The Indian Tariff Board have discussed in their Report on the sugar industry whether the industry would be able eventually to face world competition and the answer they have found to the question is rather interesting. "In view of the advantages, historical as well as climatic, which these countries possess for the manufacture of sugar we do not anticipate that, as a matter of normal development, Indian costs will ever attain so low a level as in Java or Cuba. We do not, however, regard this as a circumstance which invalidates the claim to protection. From the point of view of the third condition laid down by the Fiscal Commission,[1] the case for protection rests on two grounds which in our opinion are conclusive — first, that it is reasonable to expect that ultimately India can manufacture sugar at a cost not higher than that at which two-thirds of the world's supply is now produced, and secondly, that, if state assistance by means of subsidies and tariffs were withdrawn from those countries where the manufacture of sugar is entirely dependent on such assistance,

[1] *Report of the Indian Fiscal Commission*, para. 97. The three conditions laid down by them were as follows :—

The industry must be one

(*a*) which possesses natural advantages,

(*b*) which is not likely to develop without the help of protection, and

(*c*) which will eventually be able to face world competition.

the consequent reduction in the total supply of sugar available would raise world prices in spite of the low costs in Java and Cuba to a level at which it would be possible for India in course of time to compete unaided."[1] There are at least three errors in this unfortunate conclusion. (1) A comparison of the *ultimate* costs in India (i.e., costs after fifteen years) with the *present* costs of two-thirds of the world's supply. The Tariff Board, moreover, forget that it is hardly a matter of satisfaction for India to be able to produce at a cost not higher than that of the two-thirds of the world's supply. Consider the difference between the latter and the cost in Java. The West India Sugar Commission estimated that the cost at which the two-thirds was produced amounted to double the cost of producing sugar in the West Indies which they placed at 2·65 cents per lb. as compared to 1·93 cents per lb. in Java.[2] (2) Costs in most of the foreign countries mentioned by the Tariff Board, except Java, Cuba and Hawaii, are irrelevant to the question whether we will be able to compete, (*a*) in their own markets, (*b*) in the markets to which they export, other than our own market, and (*c*) in our own market after protection is withdrawn. So far as their own markets are concerned, our ability to compete with

[1] *Report of the Tariff Board Sugar Industry*, p. 37.
[2] *Evidence*, p. 51.

these countries depends not so much on their costs of production as on the level of their tariffs, while it is a well-known fact that in the free market outside the protected area Java, Cuba and Hawaii preponderate. Other countries whose costs are higher than the costs in these countries can maintain their exports to the free markets only under subsidies; and hence the relative level of their costs has no relevance in this connection. According to Dr. G. Mikusch,[1] only one-eighth of the world's total supply of sugar is sold under free market conditions and, if we are considering costs, it is the cost of this one-eighth of the supply that must be compared with our costs, not the cost of the two-thirds of the world-supply which is not likely to compete with us on the basis of cost at all.[2] If this

1 *World Sugar Situation, Report of the Economic Committee of League of Nations*, p. 10.

2 The Secretary, Imperial Council of Agricultural Research, wrote to the Government of India in his letter dated 5-2-30 : "Of a total world production of 27 million tons of sugar only some 9 million tons is 'unsheltered' sugar which competes on the open market of the world, hence Cuba with a production of 4½ to 5 million tons and Java with a production of 3 million tons dominate the position." (*Indian Tariff Board* : *Written Evidence*, p. 21).

This statement does not agree with Dr. Mikusch's estimate of the proportion of the world supply which is sold on the open markets. However, it makes it quite clear that the two-thirds of the world's supply which the Tariff Board considers for its comparison of costs is precisely the portion which is "sheltered" by tariffs and subsidies and the competitive power of which does not depend on costs.

analysis is correct, we will have to eliminate from our calculation all those foreign countries who have maintained the industry under the hot house of high tariffs and consider only the costs in Java and Cuba. (The cost in Hawaii is not much to the point because most of the output of Hawaii is consumed in the United States.) And, incidentally that may be nearer to the facts also, because so far as our home market or the nearer markets like the Far East are concerned it is only Java that matters. And the Tariff Board have almost given away their case by admitting that as a matter of normal development Indian costs are not likely to attain so low a level as in Java. If so, it will mean that the sugar industry in India will always require some protection against Java.[1] Since the prospects of free trade being restored in sugar are thus indefinite and remote, the reader can decide for himself whether or no

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[1] The Imperial Council of Agricultural Research had expressed the same view in 1930 : " It would be unreasonable to expect that at least for many years India would be able to face world competition without *some protection.*" (*Written Evidence,* p. 51).

I do not think even the Tariff Board expected that the Indian sugar industry would be able to retain its market without a "revenue duty" on Java sugar even after protection was withdrawn. While, according to their expectations, the normal import price of Java sugar would be Rs. 4 per maund throughout the period of protection, they estimated the fair selling price for Indian white sugar at the end of the period to be Rs. 7-12-5. (See *Report,* pp. 69 and 77.).

sugar protection is a more or less permanent burden on the community. (3) The second ground on which the Board has based their decision is that world prices will rise *if* state assistance in the form of tariffs and subsidies is withdrawn. This is a very dubious hypothesis and there is nothing in the recent commercial history to justify it. Tariffs instead of being lowered are being raised. If so, I am highly doubtful whether an argument which is based on such a tenuous assumption can be logically treated as a conclusive consideration in favour of protection. Of the three conditions prescribed by the Fiscal Commission the third one (whether the industry will be able eventually to face world competition) is the most important and can truly be described as the acid test of protection and it is highly unfortunate that the Tariff Board should have to resort to such flimsy arguments to prove that it is fulfilled by the sugar industry.

CHAPTER IV

SUGAR PROTECTION : THE AGRICULTURAL ASPECT

WHILE considering the claim of the Indian sugar industry to tariff protection the Indian Tariff Board laid a great emphasis on the agricultural aspect of the case. The expansion of the sugar industry in India, they argued, was an indispensable adjunct to agricultural development.[1] With the introduction of improved varieties, the production of sugarcane was expected to increase by leaps and bounds, and the Tariff Board were convinced that unless an outlet was provided in the form of the white sugar industry, there would ensue a tremendous fall in the prices of gur and cane, with a contraction in the area under cane as its inevitable consequence.[2] The problem before them was not merely to avert this crisis and the sufferings and hardships that it might entail to the fifteen mil-

[1] See *Report*, Chapter IV, Para. 26, entitled "Agricultural aspect of the case most important."

[2] "If a serious disturbance of the agricultural system in India is to be avoided and ordered development ensured, it is necessary to find an outlet for the additional production of sugarcane which may be expected from the introduction of improved varieties. The first and most obvious outlet is the manufacture of white sugar." (*Report*, p. 48).

lion agriculturists who are engaged in cane-growing, but also to avoid any set-back to the cultivation of cane which, they believed, had an intrinsic importance for the agricultural system of this country. "Sugarcane," they wrote, "occupies a definite place in the crop rotation of this country which it would be difficult to fill, if any considerable reduction in the area under cane occurred. Its cultivation is followed by increased yields of other crops sown in rotation with it, partly as a result of the residual effect of the manure used in cane cultivation, but largely also on account of the thorough stirring up and aeration of the soil which is a feature of the intensive cultivation required if heavy crops are to be obtained." [1]

It should be noticed that the Tariff Board wanted two things at the same time : an increase in the yield of cane per acre, and the maintenance, or even expansion, of the area under cane. Apparently, these two objectives are mutually incompatible. Since the cost of cane is the predominant item in the cost of production of sugar, an increase in the cane yield per acre is of vital importance to the progress of the sugar industry. As this takes place, there is bound to be a fall in the prices of cane and gur, so that the Tariff Board's second objective

[1] *Report*, pp. 41-42.

viz., the maintenance or expansion of the area under cane becomes well-nigh impossible. The real problem before them was to find a solution for this difficulty, and they found it in the development of the white sugar industry which, they thought, would be an adequate outlet for the surplus cane produced on account of the expected increase in the yield per acre.

II

Now that protection has been in operation for over four years, it may be useful to inquire how far it has served to alleviate the crisis in the gur industry. We find that protection, so far from mitigating the crisis, has actually made it worse. The inordinately high level of protection created the prospect of a boom in the sugar industry and this acted as a powerful stimulus to the cultivation of cane, with the result that the area under cane has expanded by nearly 34 per cent and the annual production of cane by more than 41 per cent since 1931-2. Since the sugar factories provide an outlet for cane to the extent of 12 per cent only, the bulk of this increase in the annual production had to be absorbed by the gur industry. While the Tariff Board appeared to be alarmed at the prospect of "about 40 million tons of cane being available for gur manufacture, if no steps were taken to increase the output of white sugar, as against

25·45 millions available in 1927-28, an increase of approximately 57 per cent,"[1] the amount of cane which is actually being used for gur manufacture at present when the white sugar industry has developed to the farthest limit of expansion, is estimated at something like 44 million tons, which means an increase of approximately 73 per cent over 1927-28 ! The year 1927-28 was considered by them to be a normal year ; according to them, the quantity of cane used in that year, 25·45 million tons, was sufficient to meet the normal demand for gur, " since in no recent year has the demand been in excess of this figure." Thus, the Tariff Board's remedy of providing an outlet for surplus cane in the form of the white sugar industry and thus avoiding a crisis in the gur industry has made the malady worse than before by increasing the surplus. When all the staple crops of the country are in the grip of a severe depression, it is unreasonable to expect that an attempt to give a discriminatory treatment to one particular crop and to support its price will ever succeed. It is sure to be defeated by bringing about an overproduction of the favoured crop. Provincial Governments, who have invested huge sums in irrigation canals, have become unduly enthusiastic about sugarcane and have sometimes actively

[1] *Report*, p. 45.

encouraged cultivators by departmental propaganda to expand their cultivation of cane.

The following table shows the average production of gur in tons for each triennium since 1923 :—

1923-25	2,049,000
1925-28	2,226,000
1928-31	1,953,000
1931-34	3,165,000
1934-37	4,126,000

There has been a sudden jump in the production of gur since 1932-33, the principal cause of which is to be found in the stimulus afforded by protection.

Referring to the increase in the cane crop due to the introduction of improved varieties, the Tariff Board remarked " Other forms of cane consumption remaining constant, this would mean an increase in the production of gur of over 600,000 tons. The indications are that unless steps are taken to meet the situation, a disastrous slump may be expected, seriously affecting the agricultural class, disorganising the agricultural system and compelling cane cultivation to be abandoned on large areas." [1] This

[1] *Report*, p. 48.

Cf. also " Unless steps are taken in this direction, a serious crisis must result in the gur industry as the result of overproduction, great hardship will be caused to the cultivators, while agriculture in general will receive a severe blow," p. 53. The same feeling of nervousness about overproduction in gur pervades the whole of Chapter IV of the Report.

disastrous chain of consequences was supposed to ensue from a mere increase of 600,000 tons in the production of gur ; actually, the estimated production for the current year (4,400,000 tons) is higher than the production in 1930-31 (the year in which the Tariff Board investigated the case) by 2,155,000 tons ; if the Tariff Board's reasoning is correct, what must be the effect of such a phenomenal increase on the agricultural system ?

Either the Tariff Board's forecast has been falsified by events or the gur industry has reached a state of serious overproduction. Can we suppose that there has been such a sudden jump in the demand for gur in recent years ? If so, it means that the Tariff Board's forecast that unless we developed the white sugar industry, there would be a crisis in gur-making has not come true and one important argument which they adduced in support of protection loses all its force. However, such a big change in the demand for gur does not seem likely. The exclusion of the Java sugar cannot have widened the market for gur, because gur always has a more or less independent market which was never encroached upon either by the Java or the local sugar. As the Tariff Board remarked, "there is a class of consumers who for sentimental reasons will prefer gur to sugar at whatever level prices may stand. This class is much

larger than is supposed. It does not appear that there has been any wholesale replacement of gur by imported sugar." Such increase in the demand for " sweet stuff " as is taking place due to the spread of habits such as tea and coffee drinking and the use of aerated or sweetened waters increases the demand for sugar and not for gur. In view of the depressed condition of the people, it is doubtful whether even this increase is taking place. Since there is no presumption in favour of a rise in the demand, the only inference possible from the figures of gur manufacture quoted above is that the industry is suffering from overproduction.

It is interesting to observe that the fear of a slump in gur has already begun to haunt the Provincial Governments which are interested in the gur industry. At the Sugar Conference held at Simla in July, 1933, a Minister of Bihar and Orissa moved, " If the production of sugar expands beyond the actual requirements, it would be extremely difficult and indeed almost impossible for any reasonable level of prices for gur to be maintained." The late Sir Fazl-i-Husain, who was the Chairman of the Conference, supported the resolution by saying, " This part gives an intimation to Ministers of Agriculture that if they go on extending the area under sugarcane, it will become extremely difficult for their Governments to fix a price for

sugarcane, because the laws of supply and demand will operate." The following comparison of the prices which the gur-maker is obtaining at present with the prices which he used to obtain during the ten years between 1920 and 1929 confirms these apprehensions.

PRICE OF GUR PER MAUND AT FIVE REPRESENTATIVE CENTRES.[1]

Year.	Ahmednagar (Bombay)			Cawnpore (U. P.)			Bhagalpur (Bihar & Orissa)			Madras			Year.	Lyallpur (Punjab)		
	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.		Rs.	a.	p.
1920	18	4	7	...			9	4	11	12	15	0	1920–21	8	0	0
1921	15	2	9	12	4	9	8	9	7	10	9	0	1921–22	8	0	0
1922	13	8	3	9	12	0	6	14	4	8	4	0	1922–23	5	0	0
1923	9	8	2	7	0	0	8	4	8	9	5	6	1923–24	5	0	0
1924	10	11	6	5	6	0	8	1	8	9	3	0	1924–25	10	6	0
1925	12	7	1	8	10	0	8	11	10	9	4	0	1925–26	7	8	0
1926	10	0	6	8	0	0	7	1	11	8	5	0	1926–27	5	14	0
1927	8	8	3	5	14	0	6	0	2	7	5	6	1927–28	5	7	0
1928	9	0	2	5	8	0	7	6	5	8	5	0	1928–29	5	8	0
1929	10	5	10	6	10	0	7	10	8	8	11	0	1929-30	6	3	9
1936	3	8	0	3	9	0	3	0	0	3	14	0	1936	3	11	0

[1] Compiled from the price quotations given by the Local Governments in their replies to the Tariff Board's Questionnaire. There is no other reliable source from which quotations of gur prices for the years 1920-29 can be obtained. The Indian Trade Journal started the practice of giving quotations for the above-mentioned centres since September, 1933, only.

The fall in the price of gur at these representative centres ranges from 40 per cent (at Lyallpur to 66 per cent (at Ahmednagar) as compared to the level in 1929, while, it is interesting to note that the fall in the price of white sugar during the same period does not amount to more than 15 per cent. This is some indication of the way in which the benefit of protection is divided between the manufacturers and the agriculturists. The ignorant agriculturists who were tempted by the higher prices temporarily obtained for sugarcane have had to bear the brunt of overproduction. It is an elementary principle in economics that the factor of production whose supply is relatively more elastic necessarily gets a relatively smaller rise in price whenever there is a rise in the demand for the final product.

III

The fall in the price of gur has had its natural reaction on the price of cane also. Unfortunately, no reliable statistics are available regarding the present cost of manufacturing gur and hence it is possible to form only a rough idea of the return per maund of sugar which the cane-grower is able to obtain at different prices of gur. The Tariff Board have given the

following figures for the cost of manufacturing gur in different provinces.[1]

	Bullock Mill			Power Mill		
	Rs. A. P.		Rs. A. P.	Rs. A. P.		Rs. A. P.
Madras	1 3 0	to	1 5 4			0 8 0
Bombay			1 9 0			1 7 0
Bengal			2 3 0			1 7 0
Punjab	1 14 0	to	2 7 0	1 3 0	to	1 5 1
U. P.	2 6 11	to	2 13 10	1 3 1	to	1 5 1

The extractive efficiency of gur manufacture varies from 9 to 11 per cent (i.e. 9 to 11 maunds of cane are obtained for every 100 maunds of cane crushed). In 1929, the average price of gur at Ahmednagar (Bombay) was something like Rs. 10 per maund. Deducting the cost of manufacture (by bullock mill), Rs. 1-9-0, the cost of raw material and marketing comes to Rs. 8-7-0. If we assume the extractive efficiency to be 10, we find that the cane-grower in Bombay was then getting 13 annas 6 pies per maund of his raw material including his marketing expenses. (This agrees with the Tariff Board's observation that the cost of cane to the ordinary cultivator in Bombay was about 12 annas a maund). We do not know by how much the cost of manufacture has fallen since 1929; let

[1] *Report*, p. 20.

us make the most favourable assumption that it has fallen by 50 per cent, i.e., from Rs. 1-9-0 to Rs. 0-12-6. The present price of gur at Ahmednagar is Rs. 3-8-0 per maund. Assuming the extractive efficiency to be 10, the return to the cultivator per maund of his raw material now works out at 4 annas 4 pies. This means that the cane-grower in the Bombay Presidency is getting at least 9 annas less per maund of his cane than he used to get in 1929. The following table gives the results of similar calculations made for different provinces on the assumptions that the cost of manufacturing gur has fallen by 50 per cent since 1929 and that the average extractive efficiency is 10 in all provinces. The information used is given in the tables of prices and costs quoted above.

RETURN PER MAUND OF CANE CONVERTED INTO GUR.

	1929.	1936.
	As.	As.
Bombay	13·5	4·3
U. P.	6·7	3·8
Punjab	12·0	5·2
Madras	6·9	4·4

Although the extractive efficiency varies from province to province, the above Table will give some idea of the relative change in the gur-maker's income since 1929.

Thus, the protection of the white sugar industry has failed to save the cane-grower from a drastic reduction in his income. This reminds us of the claim made by the Tariff Board that of all the staple crops of the country which were passing through a period of depression, sugarcane was the only one for which Government assistance was possible. Because while the prices of most staple crops in India depended on world causes, the home market being insufficient to absorb the total production, sugarcane was the only crop for which the home market was more than sufficient. In saying this, the Tariff Board either meant too little or too much. If the implication was to assist only the cane-growers, it could not be held to be a substantial contribution towards agricultural relief, because the cane growers formed only an insignificant proportion of the total agricultural population.[1] On the other hand, if the implication was to help all agriculturists with respect to one crop, viz., the sugarcane, one must say that the Tariff Board attempted the impossible. They did not realise that if the cultivators of wheat, cotton, groundnuts etc. were all to resort to the cultivation of cane as " the one source (to use the Tariff Board's words) from which they may hope to obtain the wherewithal to pay their rent

[1] The total area under cane is only 1·1 per cent of the total sown area.

and irrigation dues," a serious overproduction would be inevitable and the prices of cane would fall by as much as those of other staple products which Government did not help. It was not reasonable to suppose that when all lines of agricultural production were more or less equally depressed, Government would ever be able successfully to maintain the price of one particular crop and leave others to their fate. Thus, the Tariff Board's statement that "While it is beyond the power of Government to control the prices of other agricultural products, in the case of cane it is possible to ensure the maintenance of a reasonable price level by protecting the gur market against foreign competition and by providing an outlet for any surplus cane produced, by the development of the sugar industry,"[1] was in direct contradiction to the fundamental economic laws of demand and supply.

IV

This brings us to a very important aspect of this question. We have to consider how far it is possible to safeguard the interests of the agriculturists by a fixation of cane prices. In the year 1934, the U. P. and Bihar and Orissa Governments framed rules regulating the purchase of cane and fixing a minimum price to be

[1] *Report* p. 42.

paid for it. The general formula adopted is $C = \frac{S \times P}{200}$ where C is the price of cane in annas per maund delivered at the factory gate, S is the extraction percentage and P is the average price of sugar in annas per maund. It is easy to understand how this formula is evolved. If S is the extraction percentage, one maund of sugar corresponds to $\frac{100}{S}$ maunds of sugar. Since the cost of cane represents approximately 50 per cent of the cost of sugar, the price of $\frac{100}{S}$ maunds of cane will be $\frac{P}{2}$ where P is the price of sugar, and hence the price per maund of cane $(C) = \frac{S \times P.}{200}$.

Originally, the price of sugar for purposes of the above calculation was based on the highest wholesale price quotation for white sugar made in the United Provinces, less an allowance of 4 annas for freight charges. The adoption of the highest price quotation as the basis for the formula evoked considerable criticism from the factory owners and hence the U. P. Government had to amend the rules in 1935. Under the revised rules, the sliding scale of cane prices is to come into operation after the 15th December of every year. Till that date, the minimum price for the purchase of sugarcane

is to remain at 5 annas per maund.

The Mysore Government have also decided to enforce minimum price rules from the 1936 season.

We have already emphasised above one elementary principle that the factor of production whose supply is relatively more elastic is bound to experience a smaller relative rise in rewards, whenever there is a rise in the demand for the final product. It follows, then, that it was extremely unlikely that as a matter of normal development the cane-grower in India should have fared better than the factory owner. He cannot have experienced even the same relative change in rewards as the factory-owner has for the reason that overproduction in cane is relatively more serious than overproduction in sugar. We have already shown above that this conclusion is amply corroborated by the disparity between the price-trends of sugar and gur respectively. It is our firm belief that the inequitable division of benefit between the cane-grower and the factory-owner which is due to certain fundamental differences in the conditions of demand and supply of the two commodities and not to any exploitation as such by the factory-owners cannot be remedied by any scheme of artificial fixation of prices. Indeed, the originators of the price-fixation schemes are actuated by the commendable motive of protect-

ing the cane-grower from exploitation by the factory-owners, but they do not go to the root of things, inasmuch as they fail to perceive that exploitation is not the only cause, not even the principal one, of the relatively greater reduction in money incomes that the cane-grower has to suffer as compared to the factory-owners, under the regime of protection.

In United Provinces and elsewhere, the minimum price of cane is determined by means of a sliding scale based on the price of sugar. One fundamental objection to this procedure is that since the sugar factories absorb only 12 per cent of the total cane production, while as much as 72 per cent of it is converted into gur, it is unnatural that the price of cane should be determined by the profitability of sugar instead of that of gur. If the price which the growers get from the factories is higher than the return which they get by converting the cane into gur, there will be a great competition among them to sell their cane to the factories by underbidding each other and the maintenance of minimum prices will become an extremely difficult task. Let us compare the minimum price for cane sold to factories and the return on gur in the latter half of the crushing season. If we take the extractive efficiency to be 9 which is a normal figure for U. P. and the price of sugar at Rs. 8-9-0 per maund, (the quotation for Marhowrah Crystal

No. 1 on the 31st January 1936), we find that the minimum price which the factories are required to pay works out at 5·9 annas. We have described above the method by which to calculate the return that the cultivator gets for every maund of his cane which he converts into gur. In calculating the return for U. P. we have taken the price quotation for gur on the 18th April 1936. Taking the quotation on the 1 February 1936, which is nearer the date of the quotation for sugar which we have used, viz., Rs. 3 per maund, the return to the cultivator for every maund of his cane which he converts into gur comes to 2·8 annas. (Incidentally, this includes the cultivator's packing, carting and other marketing expenses, as well as his profit for gur manufacture). Thus, there is a difference of 3·1 annas between the price which the law requires the factory-owner to pay for his cane at the present price of sugar and the return which the cane-grower can expect from converting the same cane into gur at the present price of gur. It goes without saying that under these circumstances it will be in the interest both of the factory owners and the cane-growers to evade the law. If the factory owner can get his cane at 2·8 annas per maund, he will make an extra profit of Rs. 2-1-0 per maund of sugar. It will be remembered that we have calculated the cultivator's return from gur manufacture on the as-

sumption that the cost of manufacturing gur has fallen by 50 per cent. since 1930. This is a reasonable assumption in the absence of the necessary statistics. The aforesaid difference of 3·1 annas between the minimum price per maund of cane sold to a factory and the return on the cane converted into gur will be narrowed if we assume the cost of manufacturing gur to have fallen by more than 50 per cent. But even this will leave our main conclusion intact, because even if the cost of manufacture is supposed to be zero, the return per maund of cane converted into gur does not work out at more than 4·8 annas, while the minimum price to be legally paid by factories is 5·9 annas ! It is obvious that whatever devices are used to check evasion, the economic laws of demand and supply will operate to defeat the working of state laws.

The fixation of a minimum price, moreover, is a very complicated matter and lends itself to numerous abuses.[1] The ignorant agriculturist can only calculate the return that he can get by manufacturing gur, but he cannot understand the difficult formula used for calculating the minimum price of cane from the price of sugar. The quality of cane which he is supposed to offer for the minimum price is also not capable

[1] See the Memorandum submitted to the Sugar Conference of 1933 by Mr. J. P. Srivastava, Minister for Education, U. P.

of precise definition. Moreover, the assurance of a minimum price may, to some extent, diminish the inducement to the cultivator to improve the quality of his cane.

In view of the fact that sugar protection was primarily intended to assist the agricultural classes, this question of an equitable distribution of the benefit of protection between the cane-growers and the factories is of extreme importance. In his Budget Speech of 1934, Sir George Schuster expressed his considered opinion that, "It does not appear that in all cases the actual grower of cane is getting the full advantage which he was intended to receive from our policy." The question was discussed at the Sugar Conference of 1933 when Mr. J. P. Srivastava, Minister for Education, United Provinces, said "There can be no doubt about it that the cane grower has not derived any benefit from the protection that has been granted." Mr. Ajodhya Das of U. P. endorsed this remark by saying "The manufacturers have got the greater benefit due to the fact of high rate of selling price, on account of the high duty and low rate of cane purchasing price." The Minister for Education and Excise, Madras, also held a similar opinion. As an experiment in assisting the agriculturists, then, the policy of creating a boom in the sugar industry by a high tariff appears to have been a failure. It has not

been able to give him a fair price for his cane, nor has it done anything to restrict the production of gur and thus to avoid a drastic fall in gur prices.

V

In their discussion of the agricultural aspect of protection, the Tariff Board attached the highest importance to the intrinsic value of sugarcane cultivation to the agricultural system of the country. "The case for protection," wrote the Tariff Board, "really rests on the importance of cane cultivation in the agricultural economy of India. *It is necessary on general agricultural grounds to maintain or increase the area under cane* and to secure this end, an outlet must be provided for surplus cane."[1] The late Sir Fazl-i-Husain reiterated the same opinion as Chairman of the Sugar Conference in 1933. "The sugar industry," he said, "was granted a high degree of protection largely because of the value of sugarcane crop to Indian agriculture."[2] The Ministers in some provinces have found in this argument a sufficient justification for a blind pursuit of a policy of encouraging cane cultivation. Mr. P. T. Rajan, Minister for Public Works, Madras, for

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1 *Report*, p. 53.

2 Proceedings of the Sugar Conference held at Simla in July 1933, p. 24.

example, said in 1933, "The Tariff Board has emphasised that the strongest aspect of the case for protecting sugar industry is that based on the national importance of promoting the cultivation of sugarcane. From that point of view there is need for an extension of sugar factories in Madras."[1]

So long as the cost of cane is not substantially reduced, the demand for Indian sugar will, obviously, be limited to the requirements of home consumption, i.e. to 1,000,000 tons. At the time when the Tariff Board reported, the total production of sugar in India amounted to 89,800 tons, and hence the scope for expansion in sugar production was limited to 910,200 tons. Assuming an extraction percentage of 9, this means a demand for sugarcane to the extent of 10,012,200 tons. The Tariff Board expected that when the whole area under cane would be covered by improved varieties, the total output of cane would increase by nearly 10,000,000 tons and hence the white sugar industry with a potential demand for nearly 10,012,000 tons of cane appeared to them to be an adequate outlet for surplus cane. The situation, however, has considerably changed since that date. The production of cane has increased by 20,000,000 tons instead of the expected 10,000,000 tons since 1930-

[1] Proceedings of the Sugar Conference held at Simla in July, 1933, p. 15.

31. There has been an enormous expansion of area under cane, out of which an area of 1,139,300 acres still remains to be covered with improved varieties. When this is covered, a further increase in cane production to the extent of 5,696,500 tons can be expected.[1] Already there is a surplus of nearly 10,000,000 tons of cane over and above what the sugar industry can absorb without suffering from overproduction; adding the increase in production to be expected from the spread of improved varieties, we have a potential surplus of nearly 15·7 million tons of cane, which the sugar industry cannot absorb without overproduction.

The question, then, arises : are the supposed advantages of cane cultivation so great that we should still insist on the maintenance or increase of the area under cane, in spite of such a heavy surplus? If not, the Tariff Board's plea to encourage an increase in the area under cane merely for the intrinsic value of cane cultivation must be considered to have become out of date. We have had enough of the advantages of cane cultivation and we should now desire to see a restriction of the area under cane rather than an expansion. Indeed, if the average yield rises above 15 tons per acre, the total area will have to fall below the figure at which it stood

[1] The introduction of improved varities of cane is normally expected to increase the yield at least by 5 tons per acre.

at the time when the Tariff Board reported. Because, till the yield per acre rises at least to 50 tons there is no hope of developing an export trade in sugar and the demand for Indian sugar will be limited to 1,000,000 tons and for cane production for sugar manufacture to 11 million tons. If so, the area under cane must continue to contract, as we become more and more successful in increasing the yield per acre. The Provincial Governments, therefore, have no justification for encouraging cane cultivation under the present circumstances.

It has been argued that the cultivation of cane increases the productivity of the soil. Even if we admit it for the sake of argument, it does not conclusively decide the case in favour of protection. The Tariff Board claim, "In the United Provinces improved types of wheat grown after sugarcane give a yield of 30 maunds as against 20 maunds when the same type is grown after other crops."[1] They do not proceed to compare the value of the extra ten maunds of wheat obtained from an acre of land previously sown with cane, with the cost which the nation has to pay to bring that acre under cane cultivation. The average cane yield of an acre is 300 cwt. In order that there should be a demand for 300

[1] *Report*, p. 29.

cwt. of cane, the production of sugar must increase by 27 cwt. According to the calculation made in Chapter III, the present price of first grade sugar produced in India exceeds the ex-duty price of foreign sugar by Rs. 7. The extra cost, therefore, which the nation has to pay in order to enable 27 cwt. of sugar to be produced and one acre of land to remain under cane is Rs. $27 \times 7 =$ Rs. 189. The incidental benefit to be set off against this heavy cost is the value of the extra ten maunds of wheat that we get when wheat is grown on an acre previously sown with cane. The present price of wheat is Rs. 2-12-0 per maund. The value of the incidental benefit immediately resulting from one acre of cane cultivation is, therefore, Rs. 27-8-0 at the maximum, while the cost of keeping the acre under cane is Rs. 189.

Even after it is proved that the development of the white sugar industry on its present scale has not been of such an extraordinary help to the Indian agriculturist, there remains the question, how far the continued import of the Java white sugar would have threatened the existence of the gur industry in this country if the duty on sugar had not been raised to the present high level. It must be remembered that the revenue duty existing before protection was granted was already on a high level and both the sugar and gur industries in this country were

enjoying a certain amount of protection even before the duty was raised. Indeed, there were small imports of artificial gur at Bombay and Madras in 1929-30 which caused some concern to the gur-makers and we believe it was in the interest of the consumers as well as the producers to impose a heavy duty on such gur. So far as the imports of white sugar are concerned, even the Tariff Board did not consider that they ever encroached upon the market for gur. In fact, their investigations showed that there was no close correspondence between the price of sugar and that of gur. The U. P. Government definitely stated in their reply to the Tariff Board's questionnaire, "The price of gur is independent of the price of imported sugar and in many cases it is higher than that of imported sugar."[1] The Bihar and Orissa Government supported the same view.[2] Since 1922-23, there has been a continuous and uninterrupted fall in the price of sugar in India, while the price of gur according to published figures rose substantially both in 1925-26 and 1928-29. The Tariff Board wrote on this subject as follows. "On the evidence before us we are unable to accept the view that there is any substantial correspondence between variations in the prices of sugar and of gur."[3] It

[1] *The Indian Tariff Board : Written Evidence,* p. 406.
[2] *Ibid,* p. 404.
[3] *Report,* p. 86.

does not, therefore, appear that there would have been a serious calamity on the gur industry in this country, if the duty on white sugar had not been raised to the present high level.

We may safely conclude, then, that the high level of duty which the Tariff Board proposed in order to generate a boom in the sugar industry was not really necessary either to ensure a stable price for gur, or a higher price for cane, or even the maintenance of the area under cane. A moderate level of protection might have secured these results without bringing about the serious state of overproduction which we see today in all the three main branches of the sugar industry, viz., cane-growing, gur-manufacture and sugar manufacture. As a result of this overproduction, there has been a steady fall in the prices of cane and gur and the protection given to the white sugar industry has failed to be of much assistance to the Indian agriculturist.

CHAPTER V

SUGAR PROTECTION : THE INDUSTRIAL ASPECT

THE history of the world sugar industry in the post-war period is characterised by a remarkable contrast between an abundance of raw material on the one hand and a relatively slow increase in the consumption of sugar on the other. Although, since 1918, the world consumption of sugar has been increasing at the rate of 4½ per cent per annum,[1] the world production of sugar has been increasing at a much faster rate, with the result that the sugar industry in all parts of the world is suffering from an ever-increasing accumulation of stocks.[2] The increase in consumption has been further hindered by the high tariffs imposed by many countries, which have prevented their people from purchasing sugar from the cheapest source. The application of scientific research in countries like Java, Japan and Formosa for the solution of some of the central problems of the industry

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1 *World Sugar Situation,* Report by the Economic Committee of the League of Nations, p. 6.

2 The increase in production from 1922-23 to 1928-29 is approximately 50 per cent or nearly double the increase in consumption. See Appendix for statistics of world production and consumption.

such as the evolution of high-yielding varieties of cane or improvement in extractive efficiency has further accentuated the tendency of production to expand.[1]

From 1925-26 to 1931-32 the world production of sugar was consistently in excess of world consumption, so that huge stocks of unsold sugar were carried over from year to year. The index number of world stocks which was 70 in 1925 rose by leaps and bounds to 246 in 1933, the actual quantity rising from 2·5 to 8·9 million metric tons.[2] This amounted to more than 33 per cent of the annual consumption of sugar which was estimated by Dr. Gustav Mikusch to be 25 million metric tons in 1932-33.[3] As a natural consequence of this overproduction, the world price of sugar which was quoted at 29·02 francs per quintal in 1925-26 and 33·57 francs

[1] The following table shows the rapidity with which the cane sugar production of the world increased during the first ten years of the post-war period.

Production in thousands of tons.

	1918-19.	1928-29.
Java	1,719	2,939
Japan & Formosa	416	900
Phillipines	203	734
Cuba	4,000	5,156
World	18,000 (approximate)	26,786

[2] League of Nations : *World Production and Prices* (1925-32), pp. 34 and 130-1.

[3] Quoted by Mr. R. C. Srivastava—*Review of the Sugar Industry in India,* (1934-35), p. 1.

in 1927-28, fell to the ridiculous level of 10·62 francs in 1933-32.[1] Since 1932-33, however, the older sugar-producing countries like Java have realised the necessity for restricting their production and consequently the annual excess of production over consumption has been considerably reduced.[2]

It will be clear even from such a brief survey of the position of the world's sugar industry that there are strong forces in operation to bring down the world price of sugar. The significance of this fact for a country like India which is trying to develop a competitive industry from an almost rudimentary stage is very great. It not only shows the stupendous nature of the task, but it also indicates the magnitude of the sacrifice imposed on the consumer by depriving him of the benefit of cheapness.[3]

The sugar industry in India has received virtual protection against the downward trend of the world price of sugar ever since July, 1925, when the *ad valorem* duty on sugar was changed into a specific one. Between 1925 and 1931 the

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[1] League of Nations : *Statistical Abstract for 1934-35.*

[2] For further information about the world sugar industry, see *Sugar* containing memoranda submitted to the Economic Committee of the League of Nations ; *World Sugar Situation. International Sugar Journal, South African Sugar Journal* and *World Agriculture—An International Survey,* pp. 182-84, 266 et seq. Philip G. Wright : *Sugar in Relation to the Tariff.*

[3] See Graph facing p. 137.

c.i.f. price of the Java white sugar fell by successive stages from the level of Rs. 8-8-0 to Rs. 3-12-0 per cwt.; and during the same period the revenue duty on sugar was raised from Rs. 4-8-0 to Rs. 7-4-0 per cwt., so that the virtual protection given by the duty rose from 50 per cent of the c.i.f. price in 1925 to 190 per cent in 1931. Since 1932, the duty has been changed into a protective one and combined with a revenue surcharge of Rs. 1-13-0 it now amounts to Rs. 9-1-0 per cwt., thereby protecting the local industry to the extent of nearly 200 per cent of the c.i.f. price.

Under the shelter of a high protective tariff, the sugar industry in India has been expanding at a tremendously rapid rate. While in 1931-32, only 32 factories were working in India, the number has now increased to 156. The total output of cane sugar factories has increased from 158,581 tons in 1931-32 to 684,000 tons in 1935-36.[1] A mere glance at the statistics of world production would show that with the exception of the United Kingdom, there is no other country in the world where sugar production has been expanding at such a rapid rate since 1928-29.[2] Even the most enthusiastic supporters of the industry have, therefore, begun to doubt how far such an inordinate rate of expan-

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1 See Appendix Table V.

2 See Appendix Table I.

sion is a true sign of progress and whether, in the permanent interests of the industry itself, it may not be better if the rate is a little slackened in future.[1] In this chapter we have to study the position of the Indian sugar industry mainly from this point of view.

II

We have already emphasised in our discussion of the theory of protection that a mere increase of production does not guarantee an improvement in efficiency and is no reliable test of the success or failure of protection. The question, then, arises: Has the expansion of sugar production been accompanied by a genuine increase in efficiency ? The fall in the price of Indian sugar which has taken place since 1932 is due not so much to a rise in efficiency as to the general effect of the trade depression on wages, interest rates, the prices of manures, machines, etc. The reduction in costs which is due to these causes is essentially temporary in nature ; it will disappear when normal conditions return. On

[1] "The rate at which the sugar industry has been developing has recently become too fast to be healthy. Considerable caution and restraint are necessary in connection with any further extension of the industry, if it is to be saved the fate of jute, rubber and a number of other industries which are now suffering from the ill-effects of overproduction"—R. C. Srivastava, *The Indian Trade Journal*, May 1933 ; cf. Mr. J. M. Lownie's speech at the annual meeting of the Indian Sugar Mills' Association, held on 19 Aug., 1936. (*The Times of India*, 20 Aug., 1936.)

the side of raw materials, a reduction in cost depends on two things—the evolution of cane varieties with a better sucrose content and yielding a higher tonnage per acre and improvement in methods of cultivation. The former is a matter of research which is being carried on independently of protection and the growth of the industry to its present dimensions. So far as improvement in methods of cultivation is concerned, protection was expected to encourage it by increasing the earnings of the cultivators. However, as we have already seen, this hope has been well-nigh falsified and hence there is little chance of protection by itself helping the spread of intensive culture.

Due to the spread of improved varieties, which has been taking place since 1925-26, the yield per acre has increased from 12·3 tons in 1930-31 to 15·1 tons in 1934-35. This works out at a little more than 27 per cent of the average tonnage obtained in Java. According to Mr. R. C. Srivastava, Sugar Technologist of the Imperial Council of Agricultural Research, the average yield of cane in Java amounted to 55·01 tons per acre in 1934.[1]

On the manufacturing side, there has been only a moderate improvement in efficiency. During the last three years, the average extractive efficiency in India worked out at 8·80, 8·66

[1] *Review of the Sugar Industry during 1934-35*, p. 24.

and 9·05 per cent respectively. This cannot be said to be a very remarkable achievement, because, for one thing, it does not bear comparison with the average extractive efficiency in Java which was reported to be as high as 12·5 per cent in 1934 (the highest recovery reached being 13·49 per cent and the lowest 10·53 per cent); and, secondly, if we examine the figures for a few years before protection, it would appear that a similar percentage was reached even then, the figures for 1929-30, 1930-31 and 1931-32, for example, being 9·07, 8·95 and 8·89 per cent respectively.[1] It is also important to note that between 1920 and 1925 when the sugar industry had no protection and the revenue duty on sugar did not amount to more than 25 per cent, it did not become difficult for Indian factories to improve their extraction percentage from 6·85 to 8·07.[2] So protection by itself does not appear to have hastened the progress of Indian factories. Meanwhile, our oldest competitors like Java, in spite of their established superiority, are making rapid strides. Due to their persistent efforts for better varieties and higher extraction percentages, the Java producers increased their yield of sugar per acre from 9782 lbs. in 1926 to 13295 lbs. in 1929 and 15155

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[1] *Report of the Tariff Board*, p. 21.

[2] Indian Tariff Board: *Written Evidence*, p. 19.

lbs. in 1934.[1] Merely on the basis of extractive efficiency, the manufacturing cost in India seems to be higher than that in Java by more than 31 per cent.

Apart from the sluggishness of the Indian producer, the difference in the productive efficiency of Java and India is also due to the fact that as compared to Java, the Indian industry is handicapped by certain natural disadvantages. Nearly 87 per cent of the cane area in this country is situated outside the tropics ; and is, therefore, incapable of producing cane of the same quality as the cane produced in Java and Hawaii. There are certain difficulties of organisation also. As Mr. Noel Deerr once pointed out,[2] the great extension of the sugar industry in India has taken place in an area which is dependent on monsoon precipitation, and where no extensive irrigation schemes are in being. Consequently, the cane-grower is unable to take advantage of three summer months of bright hot sunshine, from March to mid-June, before the break of the rains. In the United Provinces and Bihar where nearly three-fourths of India's sugar is produced, factories have no control over cane growers. They have to purchase their cane from a number of small grow-

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1 *Indian Tariff Board* : *Written Evidence,* p. 49.

2 "Indian Sugar and Protection," *Capital,* 22nd September, 1932.

ers whose practices in the matter of planting and cutting cannot be adapted to the requirements of factories.[1] It is difficult to secure a long working season without a judicious selection of early and late ripening varieties and the factories in the United Provinces are unable to ensure this due to a lack of control over cane-growers. The sugar industry in Java has evolved a renting system under which the factories secure a control over cane area for a sufficiently long period, so that they can ensure the plantation of the necessary proportion of early and late ripening varieties to suit their requirements. Another serious defect in the organisation of the sugar industry in India is the excessive congestion of factories in certain parts of the country. While extensive cane areas are available in the Western districts of U. P. and in South Bihar, most of the new factories have been established only in the eastern districts of U. P. and in North Bihar. If in future the cultivation of cane falls off in these parts, many of the factories there will have to draw their supplies from long distances, thus increasing their cost of raw material.

As regards modernity of equipment, the Indian sugar industry's record for the last four years leaves very much to be desired. Many

[1] For a fuller discussion of these questions see *Proceedings of the Fourth Meeting of the Sugar Committee (1931), passim.*

of the new factories which have sprung up like mushrooms are reported to have been equipped with cheap, inefficient and out-of-date plant. Since India is almost the only country in the world at present where the demand for sugar machinery is growing, there has been an almost cut-throat competition among machinery suppliers to sell their machines to India. This has led to such a drastic price-cutting that most of the best producers with long years of Indian experience have left the market, the Indian requirements being now supplied by cheap producers with ill-adapted machinery of inferior design.[1] In this connection, the following observations of a foreign writer, Mr. E. G. Wuthrich, are of great interest. "Many factories (in India) are still following processes and methods which cannot but be called old-fashioned. Some are producing various kinds of sugar where it would be better to manufacture only one of good quality. Others while manufacturing only one class of sugar are following the wrong method because they are not properly equipped. The low figure of 8·99 sugar recovery per 100 of cane is not due entirely to bad quality cane, but also to the heavy losses many factories suffer through inefficient me-

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1 *Proceedings of the Fifth Meeting of the Sugar Committee (1933)*, p. 63.

thods."[1] The assurance of protection for a fairly long period seems to have induced a feeling of self-satisfaction among the sugar producers in India.

III

In the matter of cost of production the sugar industry in India discloses great variations as between different provinces. Although U. P. and Bihar can boast of the majority of sugar factories in this country, the cane yield per acre is very much lower in these provinces than in Madras and Bombay. Both Madras and Bombay, being entirely tropical, are climatically among the most suitable parts of India for cane cultivation. While the average yield per acre in U. P. and Bihar is something like 15 tons, the average in Madras amounts to 28 tons and in Bombay to more than 30 tons. The quality of cane produced in these provinces is also much superior, its sucrose content being about 13·5 per cent as compared to 11·5 per cent of the cane produced in Northern India. Due to a combination of these factors, the majority of the factories in Bombay and Madras had recoveries of over 10 per cent as compared to an average of 8·5 per cent in Northern India, in 1934-35. Bombay has a much longer working

[1] *International Sugar Journal*, June, 1936.

season than any other province and consequently the overhead costs should be comparatively much lower in Bombay. We have already seen that some of the major difficulties of factory production in Northern India arise out of a lack of co-ordination between the agricultural and manufacturing branches of the industry. These difficulties do not arise in Bombay, where the factories grow their own cane. Efficient factories like the Belapur Sugar Factory have conducted experiments on their farms with excellent results. The Tariff Board were informed that certain fields of the Belapur Estate yielded 40 tons of cane per acre. It was recently reported that on an experimental plot in the Bombay Presidency a yield of as much as 110 tons of cane has been obtained.

At the Sugar Conference of 1933, a representative of the cane-growers in Madras, Rao Bahadur Narasimha Raju Guru, gave some interesting figures about the cost of production in that Presidency.[1] According to him, the factories in Madras may be able under favourable circumstances to obtain their raw material at a slightly lower cost than the factories in Java. The output of a variety of cane known as CO. 213 which is grown in Madras on large areas is more than 36 tons per acre and its average

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1 *Proceedings of the Sugar Conference (1933)*, pp. 18-21.

sucrose content as recorded at the Anakapalli Government farm is 14·8 per cent.

In spite of these natural advantages, the sugar industry has so far made only a very moderate progress in these two provinces. There are only 5 factories in Bombay and 9 in Madras as compared to 68 in U. P. and 34 in Bihar. The Tariff Board thought that the main difficulty in the way of an expansion of the industry in Bombay and Madras was the high cost of producing cane in these provinces. However, due to the great fall in agricultural wages and the prices of manures, this difficulty has well-nigh disappeared. In Madras, the cultivation of paddy resisted an increase in the sugarcane area for a time, but now when paddy prices have come down, the agriculturists have turned their attention to sugarcane cultivation only. In Bombay, it is said that the expansion of the industry was so far retarded by the difficulty experienced by the factory owners in acquiring the necessary land. Thanks to the intervention of the Agricultural Department even this difficulty is being solved. There is every reason to suppose, therefore, that if the protective tariff is continued at the present high level, both Madras and Bombay will take advantage of their natural superiority by increasing their production of sugar by a considerable amount.

IV

This unequal distribution of the sugar industry as between different provinces[1] raises some extremely difficult questions of public policy. If we take the sugar industry of India as a whole, we find that its production will shortly reach the limit of home consumption and any considerable expansion of the industry will lead to overproduction. But does this lead to the conclusion that Government should take steps to discourage further expansion ? The tariff policy of the Government of India, it will be said, has to take account of the ambitions of all provinces. Just because a few provinces like U. P. and Bihar, having the advantage of an earlier start, were able to expand their production more quickly, it does not follow that they are the only provinces suited for the development of the sugar industry. If large areas are available for cane cultivation in other provinces and if in these provinces the sugar industry is likely to be more efficient than in the provinces where it has developed most at present, will the Government be justified in restricting the further expansion of the industry ? Such a step will be interpreted by other provinces as a step to stabilise inefficiency. If Madras hopes to produce sugar at a lower

[1] See Appendix Table VII.

cost than U. P., the fact that sufficient sugar is being produced in U. P. is no consolation for it. In the interests of its own citizens, if not in the interests of the general consumer in India, it will consider itself fully justified in increasing production.[1]

Each province has its own reason why an expansion of the sugar industry within its borders is imperatively necessary. The Sugar Conference of 1933 presented an interesting spectacle of provincial jealousies in this matter, and the proceedings of this Conference give a clear indication of the way in which the Ministers in many provinces are engaged in a blind pursuit of the policy of encouraging cane cultivation. I will give a few quotations here from the Ministers' speeches themselves in order to give the reader an idea of the strong winds that are blowing in this direction.[2] Discussing the question whether the development of the sugar industry has been inadequate or excessive, Sardar Sir Jogendra Singh, Minister of the Punjab Government, said, "I am not prepared to say that the time has arrived when any restriction should be placed on the expansion of the sugar

[1] The manufacturers in the U. P. and Bihar have also begun to feel that in course of time the excessive development of the industry in their provinces may clash with the development of the industry in other provinces. See Mr. D. P. Khaitan's speech at the Sugar Conference (1933), *Proceedings*, p. 9.

[2] *Proceedings*, pp. 9, 11, 15, 16 and 45.

industry. Take, for instance, the Punjab. We have now increased our sugarcane cultivation from 300,000 to 500,000 acres and we have only 2 sugar factories working. How can we accept that there should be any restriction on the establishment of sugar factories in the Punjab ?" Syed Nizamuddin Hyder, Director of Agriculture, Hyderabad State, gave vent to similar feelings — "It will not be long before the United Provinces and Bihar and Orissa will produce all the sugar that is required in India. That will leave the other provinces with no market in India. My own State is greatly interested in sugarcane cultivation and sugar manufacture. The Government have spent crores of rupees on irrigation projects, the financial success of which depends mainly on sugarcane...I, therefore, suggest that the factories which have already been established in the United Provinces and Bihar and Orissa should continue to operate, but, while congratulating these two provinces, I request them to let us have a chance." The Nizam State has inaugurated several irrigation projects ; one project called the Nizamsagar has added 20 thousand acres of cane while another called the Tungabhadra project is expected to give 30 thousand acres of cane. The Mysore State is also quite as enthusiastic about sugarcane cultivation as Hyderabad. Mr. S. P. Rajagopalachari, Member in

charge of Industries and Agriculture, Mysore, said, "We have got 36,000 acres of sugarcane cultivation now and in the Irwin canal area we have at present 10,000 acres fit for sugarcane cultivation. What is more important is that the Mysore Government are keen on introducing sugarcane, as this is the best way of making the most economical use of the large storage of water which we have now got in the reservoir. For the 30,000 acres which we expect to have in the immediate future, at the rate of about 3,000 acres per factory, we would require 10 factories to deal with sugarcane. We are, therefore, immediately faced with the problem of starting more factories."

The Minister of the Madras Government was equally emphatic on the necessity of encouraging further expansion of sugar production. He would like to see more factories established in Madras for the reason that while the production in Madras amounted to 10,000 tons only, the presidency offered a market for sugar to the extent of 100,000 tons. The Director of Industries, Bombay, advanced a similar plea, "The Government of Bombay have invested between 9 and 10 crores of rupees on irrigation in the Deccan and every committee and conference that has sat on the subject has held that unless the white sugar industry is established in the Deccan, it will be

very difficult to make these canals financially successful. Therefore, the Government of Bombay have been very anxious to see that new factories are established."[1]

My only apology for giving these quotations is to enable the reader to judge for himself how overwhelming is the pressure in this country towards a further expansion in the production of cane and sugar. Although the views were expressed three years ago, it will be clear from the reasons given by the Ministers, that the pressure towards expansion was not such as could have spent itself by now. Many provinces and states wanted to develop sugar production to a level that would be suitable to the enormous extension of cane area that their irrigation projects had made possible. Others wanted to bring it to a level that would be commensurate with the demand for sugar in their own provinces. It seems inevitable that these factors will continue to make a stronger appeal to their Governments than any considerations about the future demand for sugar. If all of them give effect to their ambitions, how serious would be the overproduction in cane, gur and sugar ? In these days of severe depression he would be very optimistic, indeed, who will expect an increase in

[1] For a fuller explanation of the importance of the sugar industry for the Deccan Canals, see the *Report of the Deccan Canals Financial Enquiry Committee*, 1932.

the consumption of sugar at the present prices. It is of no use to compare the *per capita* consumption of sugar in different countries and to show that it is too low in India as compared to other countries, because low consumption is the result of low national income. If, then, production continues to expand under the influence of the several factors which are explained above, there will have to be a progressive fall in the price of sugar and gur and this will cause heavy losses to the factory owners and great hardships to cane growers, because there is no chance of anything like a proportionate fall in the cost of production of sugar or cane in the near future.

V

When Sir George Schuster proposed the imposition of an excise duty of Rs. 1-5-0 per cwt. in his Budget Proposals for 1934-35, he was swayed mainly by these considerations. He was convinced that the sugar industry in India was receiving a degree of protection which was considerably in excess of what Government originally intended. "Taking a view of the more distant future," he said, "we have been compelled to the conclusion that if the present conditions are allowed to continue, there is a danger of overproduction which might in the long run bring disaster to the interests of cultivators and manufacturers alike."

Has the imposition of the excise duty restrained the pace of the sugar industry ? It has, but not sufficiently to remove the danger of over-production. Factories are still multiplying and warnings are being uttered that the manufacturers should prepare themselves for a further fall in price. The total number of factories which was 130 in 1934-35 increased to 139 in 1935-36 and is expected to be 156 in 1936-37. The total production of sugar of all kinds which is estimated to be 850,000 tons for 1935-36 is fast approaching the limit of India's present consumption of about 1,000,000 tons. Several mills in Northern India are reported to be working below their capacity ; and in order to avoid a large accumulation of stocks, the manufacturers have decided this year to start crushing later than usual.

Mr. J. M. Lownie, the Chairman of the Indian Sugar Mills Association, in his presidential speech at the annual meeting held at Calcutta on 19th August 1936[1] has made a fervent plea for taking immediate steps to restrict the production of cane and sugar. "Prices of sugar" he said, "have declined as production has increased and merchants and factories have, therefore, lost considerable sums owing to cancellation and settlement of contracts. Recourse has been made to resale and consequently Cawn-

[1] *The Times of India*, 20 August, 1936.

pore merchants have suspended dealings, during the last ten days of July. A large portion of last year's production is still awaiting delivery. The time has come for some kind of restriction to be imposed both on the area under cane cultivation and on the number of factories."

So, the opinion is gaining ground that, in the interests of all concerned, it is time for the Government of India to cry a halt to the further march of the sugar industry. There is a growing realisation that the continuance of the present state of affairs would mean nothing short of a disaster to the industry. Every boom has its depression and if the same state of affairs continues, it will be difficult to avoid a drastic recession of activity in the near future. A recession of this kind involves a heavy social cost in the form of losses, liquidation, unemployment, scrapping of plant and a shock to public confidence, which must be weighed against any temporary benefit that the industry may appear to be reaping from its present show of prosperity.

But this is not a matter which can be left to the provinces, because each province has its own ambitions. As we have already seen, the interests of different provinces are in a sharp conflict with each other in this respect and in the case of many of them the pressure of self-interest is overwhelmingly on the side of expansion.

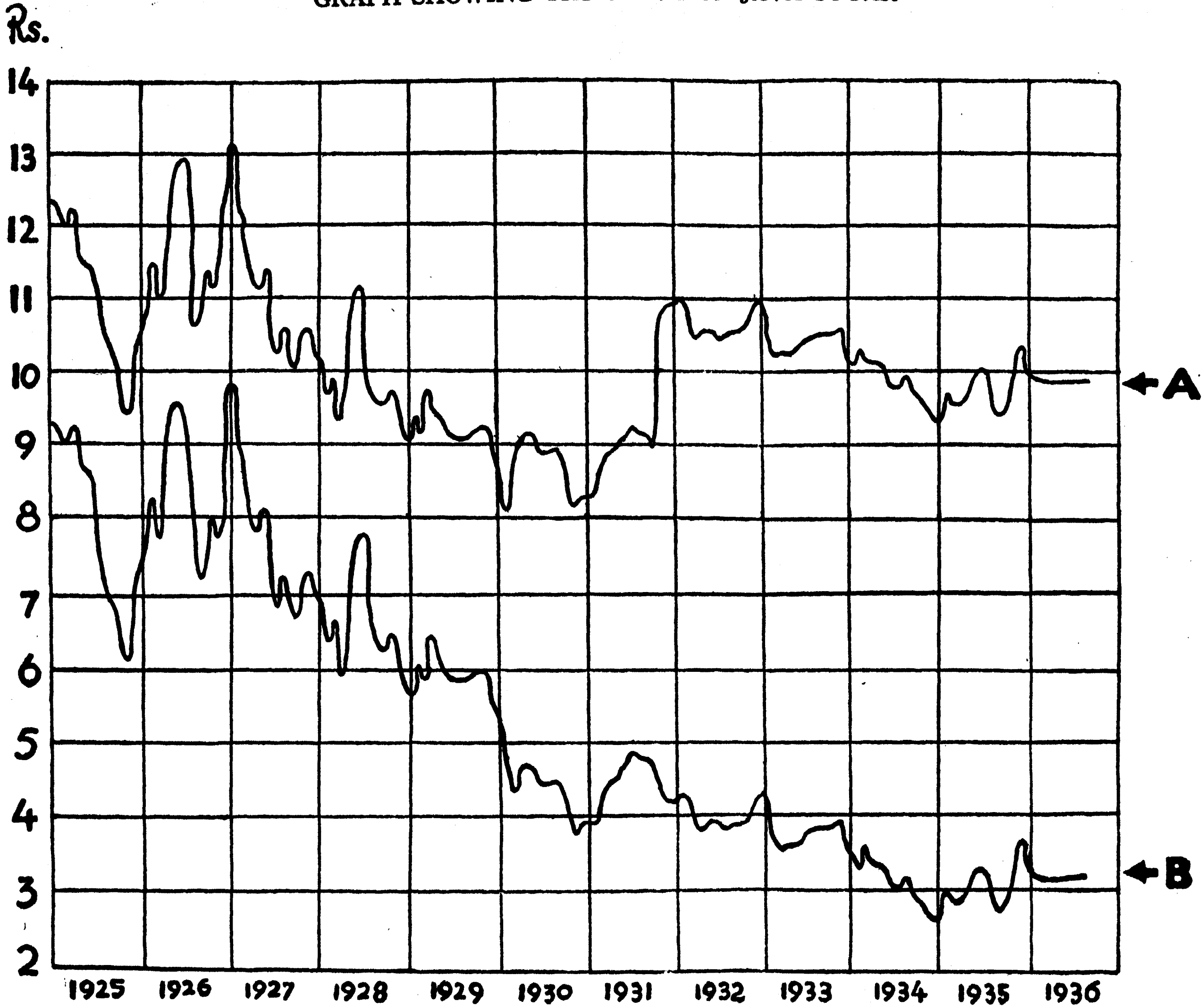
For the same reason, if any direct action is taken by the Government of India to restrict the number of factories, it is bound to be misunderstood as an act of discrimination in favour of the United Provinces and Bihar. If so, there appears to be no suitable means available to the Central Government other than a reduction in tariff protection whereby they can give a timely signal to the industry to control its rate of growth. A reduction in duty will act as an effective brake on the further expansion of the industry, without rousing any suspicion of interprovincial discrimination and may even compel sugar producers to make a determined effort to bring themselves as near as possible to the standard of manufacturing efficiency maintained in other countries. It will also enable a certain amount of foreign competition to be retained in the country as a necessary spur to further progress.

I think it is time to realise that the problems of the sugar industry are essentially problems of research, for the solution of which protection by itself can be of no material assistance. Indeed, the experience of the last few years shows that protection may actually be a hindrance instead of a help by preventing an ordered development of the industry. Our survey of the present position of the sugar industry leads us to the conclusion that the industry has now reached a

stage in which a more liberal expenditure by Government and industrialists on research on its agricultural and manufacturing side is likely to be of much greater benefit than the continuance of protection at its present level.[1]

[1] Government's total expenditure on sugar research upto September, 1935, amounted to 34 lakhs.

GRAPH SHOWING THE PRICE OF JAVA SUGAR



A = The price of Java white sugar per maund at Calcutta. B = The ex-duty price of the same.

(Both the lines are based on monthly averages.)

The graph shows the growing divergence between the price of the Java sugar in India and its ex-duty price. While the ex-duty price (i.e. roughly the world price) has fallen from Rs. 9-4-0 to Rs. 3-4-0 per maund since 1925, the price in India has fallen from Rs. 12-4-0 to Rs. 9-14-0 only during the same period. The fall in the world price has been offset by additions to import duty from time to time. Compare the graph with the Table IV in the Statistical Appendix.

CHAPTER VI

CONCLUSION.

AFTER wading through a maze of controversial issues we have now arrived at a stage in which it may be refreshing to emphasise those aspects of the problem which are considered non-controversial. There can be little argument, I think, on the point that, considered from whatever angle, an immediate abolition of our protective tariffs is not called for, although, if the reasoning of the previous chapters is correct, our whole outlook in tariff matters needs a thorough revision. I hope, the reader will remember that this book deals primarily with questions of policy and its emphasis is more on the ultimate ends of tariff policy than on concrete proposals for reform. Once we have formed our convictions as to what the goal of our policy should be, the exact method of putting them into practice is more a matter of expediency than of theory. We can only go so far as to say that the State should keep a vigilant watch over every one of the protected industries, with a view to see that the burden on the consumer and tax-payer is not continued longer than is absolutely necessary in the wider interests of the country.

One cannot, theoretically, deny the possibility that there may be a few cases in which the principle of discriminating protection can be applied without imposing a permanent burden on the community. It should be remembered, however, that such cases are very rare and hence, we should give up any illusion that we may have about achieving a rapid industrialisation of the country by means of discriminating protection. Secondly, even in the case of industries which are adjudged to be worthy of protection, a protective tariff does impose a sacrifice on the consumer in the short period and hence, the State has a duty to see that the level of duties has been fixed with due regard to the capacity of the consumer to endure such a sacrifice. As we have already seen, there is no hope of protection by itself compensating the consumer by an increase in his income in the near future.

In the application of the principle of discriminating protection, great caution is necessary, lest the rules of discrimination should be relaxed for the sake of the entirely extraneous object of securing a rapid industrialisation of the country. Because, if the latter is to be the goal of our fiscal policy, almost any industry that can produce the articles at present imported can prove itself capable of giving industrial employment to large classes of people. A confusion between

the two objects, rapid industrialisation and protection with discrimination will lead to nothing less than a chaos in our fiscal policy.

It is not suggested that industrialisation is not a desirable object to pursue, but that high protection is not the right method of achieving it. A policy of hastening the process of industrialisation by high tariffs will merely saddle the country with a number of industries which have no reasonable prospect of becoming self-supporting any time in the near future. The pace of industrialisation has to be necessarily slow in this country, because it has to come about through means other than high tariffs. We have to begin by creating those general conditions of life and work which make for a steady improvement in agricultural and industrial efficiency. Repeated references have been made in the foregoing chapters to the lines along which such a development should proceed. A provision of liberal finance by the State for the encouragement of small-scale industries and the development of subsidiary agricultural occupations are a *sine qua non* of any progress in this direction. A satisfactory solution of this wider problem of general economic development will also lead to the result that the industries which are now incapable of making the best use of tariff protection may rise to the level of efficiency in which a small measure of protection may be of genuine

help to them.

Tariffs, on the other hand, create an illusory show of prosperity by increasing employment in certain directions, but they will not touch the major evils which are really eating at the core and which are the fundamental causes of our inefficiency. Such a small and temporary improvement may easily be the worst enemy of a great and permanent improvement. A craze for tariffs which benefit only a few powerful groups at the expense of the vast masses of people who are really in need of help, is one of the surest signs of a corrupt political philosophy. It indicates that the country is playing into the hands of some powerful vested interests which, if not promptly resisted, may rush it into a path the grave dangers of which they can hardly perceive.

Much of the confusion in Indian economic discussions is due to a certain inability to view the problems in a genuine scientific spirit or to keep them detached from political or pseudo-ethical considerations. Indeed, what a grain of theory can teach, mountains of facts cannot, and hence the key to a correct estimate of the complex issues which affect the economic destiny of this nation lies in a proper appreciation of their theoretical basis by the public as well as the ruling powers. In this book I have aimed more at suggestion than an exhaustive examina-

tion, but it should be clear, I believe, even from such an incomplete analysis that many a whirlwind which arises in our economic discussions from time to time can be easily avoided, if only we cultivate the habit of thinking in terms of ultimate economic values, such as the maximum national dividend, the maximum real income, the optimum level of employment and the like, rather than in terms of things which are of immediate but superficial importance such as increase in production and employment in any one direction. Let not our pre-occupation with our political problems and our anxious desire to end the tyranny of poverty, disease and death which ramifies into the nook and corner of this unfortunate land, mislead us into measures, which, however well-intentioned, are in their very nature risky, and are likely to disillusion us by making the malady worse than before.

STATISTICAL APPENDIX

TABLE

WORLD PRODUCTION

(IN ·000

	1925–26	1926–27	1927–28	1928–29
Africa	6930	6,240	6,870	7,880
N. America	1,180	400	600	1,120
C. America	61,700	57,300	54,700	63,500
S. America	17,700	19,160	18,880	19,570
Cuba	46,900	42,900	38,400	49,000
Asia	49,600	55,700	62,900	63,000
India...	*18,100*	*19,900*	*19,100*	*16,500*
Java	19,416	23,512	29,236	28,710
Europe	58	92	99	116
Oceania	13,060	11,940	13,870	14,150
World...	*1,50,200*	*1,50,800*	*1,57,900*	*1,69,300*
Price in Gold Francs	29·02	29·25	33·57	27·99

I.

OF CANE SUGAR[1]

QUINTALS)

1929-30	1930-31	1931-32	1932-33	1933-34	1934-35
7,780	8,690	7,730	9,230	9,840	8,300
1,690	1,550	1,330	1,890	1,730	1,930
62,100	46,600	44,600	36,900	42,000	39,000
21,240	20,440	19,680	19,540	16,290	15,500
44,400	29,700	24,700	19,000	21,600	22,000
64,300	65,400	72,000	62,200	57,900	54,200
16,800	*19,700*	*24,200*	*28,600*	*29,700*	*31,000*
29,159	27,724	25,602	13,726	6,171	4,786
134	169	176	175	140	170
14,320	15,160	16,030	16,000	16,870	17,000
1,71,600	*1,58,000*	*1,61,500*	*1,45,900*	*1,44,700*	*1,36,000*
22·74	16·92	15·27	10·62	10·94	10·96

1 Statistical Abstract of League of Nations.

TABLE II.

WORLD PRODUCTION AND CONSUMPTION OF SUGAR (CANE AND BEET).

Year.	Production.	Consumption.	Excess of Production over Consumption.
	Metric Tons.	Metric Tons.	Metric Tons.
1925–26	25,923,000	24,712,000	1,211,000
1926–27	24,859,000	24,790,000	69,000
1927–28	26,633,000	25,843,000	790,000
1928–29	28,898,000	27,479,000	1,149,000
1929–30	28,555,000	26,846.000	1,709,000
1930–31	29,579,000	26,939,000	2,640,000
1931–32	27,208,000	26,100,000	1,108,000
1932–33	25,719,000	25,876,000	—157,000
1933–34	25,521,000	25,037,000	484,000
1934–35	24,904,000	25,637,000	—733,000

TABLE III.

IMPORTS OF SUGAR[1] IN INDIA DURING THE POST-WAR PERIOD.

	Quantity in tons.	Value in lakhs of Rupees.
1920-21 to 1922-23	409,000	...
1923-24 to 1925-26	582,000	...
1926-27	826,900	18,36
1927-28	725,800	14,50
1928-29	868,800	15,86
1929-30	939,600	15,51
1930-31	901,200	10,54
1931-32	516,100	60,1
1932-33	369,500	4,12
1933-34	261,300	2,70
1934-35	222,900	2,11
1935-36	201,157	1,89

[1] Sugar of all kinds, excluding molasses.

TABLE IV

IMPORT DUTY ON SUGAR.

Period.	Rate.
Before 1916	5% ad valorem.
1916-21	10% „
1921	15% „
1922-25	25% „
1925	Rs. 4 8 0 per cent.
1930	„ 6 0 0 „
1931	„ 7 4 0 „
1932	„ 9 1 0 „
	(includes surcharge of Rs. 1 13 0 per cent.)

NOTE—The protective duty of Rs. 7-4-0 is to continue till 31st March 1938.

TABLE V.

PRODUCTION OF SUGAR IN INDIA.

Year.			Direct from cane.	Refined from Gur.	Total.
			Tons.	Tons.	Tons.
1925-26	...	...	52,990	38,409	91,399
1926-27	...	...	62,941	58,085	121,026
1927-28	...	...	67,684	52,055	119,739
1928-29	...	...	68,050	31,038	99,088
1929-30	...	...	89,768	21,150	110,918
1930-31	...	...	119,859	31,791	151,650
1931-32	...	...	158,581	69,539	288,120
1932-33	...	...	290,177	80,106	370,283
1933-34	...	...	453,965	61,094	515,059
1934-35	...	...	580,000	40,000	620,000

TABLE VI.

SOURCES OF SUPPLY OF SUGAR REQUIRED FOR CONSUMPTION IN INDIA.[1]

	1931-32	1932-33	1933-34	1934-35
Total Gross Supply.	Tons.	Tons.	Tons.	Tons.
Initial stock[2] ...	157,862	67,878	22,316	25,350
India's production of sugar of the previous year for consumption in the next year.				
(a) Direct from cane	119,859	158,581	290,177	453,965
(b) Refined from Gur	31,791	69,539	80,106	61,094
(c) Made by indigenous processes.	200,000	250,000	275,000	200,000
India's imports of sugar by sea.	516,083	369,450	261,299	222,900
India's imports of sugar by sea into Kathiawar Ports.	93,451[3]	63,788	73,390	110,963
Total supply ...	1,119,046	979,236	1,002,288	1,074,272
Re-exports of sugar by sea.	5,630	4,043	11,526	2,604
Exports of sugar by sea.	226	437	425	363
Exports of sugar by land.	28,885	27,729	33,110	34,034
Closing stocks ...	67,878	22,316	25,350	22,373
Total to be deducted	102,619	54,526	70,411	59,374
Net quantity available for consumption.	1,016,427	925,710	931,877	1,014,898

[1] Reproduced from the Review of Sugar Industry in India (during the year 1934-35) by R. C. Srivastava.

[2] These figures do not include the initial and closing stocks in Kathiawar Ports.

[3] Includes molasses.

TABLE VII.

PRODUCTION OF SUGARCANE FROM 1925-26 TO 1934-35.

Year.	Area under Sugarcane.	Area under Improved Varieties of Cane.	Calculated Production of Sugarcane.
	Acres.	Acres.	Tons.
1925-26	2,806,000	171,808	34,382,000
1926-27	3,075,000	207,989	37,392,000
1927-28	3,105,000	268,688	36.842,000
1928-29	2,650,000	301,098	30,669,000
1929-30	2,677,000	549,025	30.961,000
1930-31	2,902,000	817,094	35,780,000
1931-32	3,076,000	1,170,479	43,316,000
1932-33	3,435,000	1,845,788	51,129,000
1933-34	3,433,000	2,295,257	52,455,000
1934-35	3,596,000	2,445,719	54,346,000

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1933-34	3,433,000	2,295,257	52,455,000
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TABLE VIII.

RELATIVE POSITION OF DIFFERENT PROVINCES AND STATES IN CANE CULTIVATION AND SUGAR PRODUCTION IN 1935-36

Provinces and States.	Area under Sugarcane. (1,000 acres)	No. of Sugar Factories.
U. P.	2,249	68
Punjab	473	5
Bihar and Orissa ...	465	34
Bengal	325	7
Madras	131	9
Bombay	121	5
N. W. Frontier Province.	58	...
Assam	35	...
Central Provinces & Berar	30	...
Delhi	3	9
Mysore	50	
Hyderabad...	59	
Baroda	3	
Bhopal (Central India)...	5	

TABLE IX.

PRODUCTION OF GUR FOR DIRECT CONSUMPTION.

	Tons.
1923–24	2,400,000
1924–25	1,698,000
1925–26	2,089,000
1926–27	2,313,000
1927–28	2,276,000
1928–29	1,778,000
1929–30	1,837,000
1930–31	2,245,000
1931–32	2,772,000
1932–33	3,245,000
1933–34	3,477,000
1934–35	3,692,000
1935–36 (a)	4,286,000
1936–37 (a)	4,400,000

(a) Estimated.

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ERRATUM

On p. 4, line 3, *for* " The relation between the primary and the secondary increase in employment ", *read* " The relation between the primary and the total increase in employment."